PAC Market Study

Workplace 2025

What will an effective workplace strategy look like when millennials control the boardroom, AI goes mainstream and the traditional office disappears?

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INTRODUCTION

The year is 2025. Anna, a UK-based data scientist for the retail sector wakes up at 6am, and is informed by Lucy, her personal digital assistant that a potential client would like to meet at midday. Eva, a team leader at a major European retailer, would like to meet with Anna to discuss heading up a project, having identified her from a global pool of experts through an artificial intelligence-powered digital talent platform.

Anna verbally accepts the meeting, and the assistant adapts her calendar, moving her session with her voluntary STEM school support group back to later in the day. Lucy advises that based on current road conditions driving would be the best way to get to the digital hub at her local University campus, where Eva wants to meet. Lucy automatically books a shared autonomous vehicle for the trip from the local pick-up point, and ensures that Anna can securely access the latest information on the client's financial performance during her journey on an in-car private display.

On arriving at the office hub, Anna has already been allocated security clearance via an app on her wrist wearable device. She is welcomed by a holographic receptionist who directs her to a pre-allocated collaborative working space, and informs her that Eva has already arrived. A sensor on Eva's wearable notices that her core body temperature is above average and automatically interacts with the space's smart thermostat to activate the air conditioning.

In the meeting, Eva orders coffee via the office management app, which is brought to the room by a delivery bot. Anna presents her ideas for the project using 3D graphic images generated from a gesture-controlled surface-top device. She suggests that Mia, with whom she has worked in the past, would be a valuable addition to the team, and shares a short video that highlights some of Mia's recent success stories.

Mia, who lives in Berlin, joins the meeting from home using a virtual reality display, so she has the sense of being present in the room. The three use a virtual whiteboard to sketch out a plan for the project and ask their digital assistants to identify a workable timeline, based on their future availability. Eva opens up a cloud-based collaboration platform and Mia and Anna share biometric identity data with Eva's central human data management platform to enable them to securely access the relevant data sets.

The next decade will see nothing short of a revolution take place in the way that we work. As the millennial generation becomes the dominant presence not just in the workforce, but also in the boardroom, seismic shifts will take place in the relationship between companies and their employees as well as the structure of organizations and industry sectors. Traditional thinking about careers, training and recruitment will be turned upon its head.

Technology will drive and enable all aspects of this transformation, and businesses will rethink the concept of the "workplace" in an era where employees will be always connected and AI will be all pervasive. The focus for workplace strategies will widen from driving individual user productivity to enabling collaboration and co-creation as part of a wider ecosystem, while also supporting health and wellness.

Organizations need to start laying the foundations for this world now or they will not be prepared for the change that will come. The White Paper looks at the five main areas that will reshape the future requirements and positioning of the workplace in 2025, and offers guidance on the practical steps that businesses can take to ensure long-term success.

1. "THE LIFESTYLE WORKPLACE"
(Social change)

2. "THE INTELLIGENT WORKPLACE"
(Technology change)

3. "THE LOW-IMPACT WORKPLACE"
(Environmental change)

4. "THE BOUNDARY-LESS WORKPLACE"
(Business & industry change)

5. "THE CROSS-GENERATIONAL WORKPLACE "
(Demographic change)

1. THE LIFESTYLE WORKPLACE

In 2025, employees will have a very different kind of work experience and relationship with their employer to the one they have today.

Many workers will identify themselves as providing a particular skill or being a member of a particular professional network, rather than as an employee of one specific company. The working week will become a much more fluid concept in order to provide employees with the working hours and flexibility that works best for both staff and employers. Workers will meet in radically different office spaces, designed to enhance collaboration and be more in-tune with their personal preferences.

Here are three ways in which societal changes will impact the workplace in 2025:

Flexible working becomes the norm.

Flexibility, rather than stability, will become the main goal in 2025 as employees look to drive a better work-life balance.

More than half of the workforce in major economies such as the US and the UK will be working in a freelance capacity by 2025[1], with the shift massively impacting sectors such as professional services, transportation and retail. CXO-level roles in areas such as marketing, technology or strategy will also be occupied on a shorter-term basis as professionals opt for freelance positions.

Even those workers that are tied to a single company will dramatically change the way that they interact with their employer. By 2025, more than a third of organizations will

have more than 50% of their staff working remotely[2]. Working hours will no longer be tied to nine-to-five, but they will be more flexible and employees will be able to strike a better work/life balance over the course of the day.

What's behind this trend? A major factor will be the impact of the millennial employees in the workforce, for whom having a good work/life balance comes before career progression when evaluating job opportunities. Research also suggests that workers can only be truly creative for six hours a day[3], and that working less could help reduce stress, prevent accidents and even combat climate change. The shrinking workforce and scarcity of key skills in many Western economies will also force employers to offer more attractive work styles in order to compete for the best talent.

Flexible working carries a wealth of potential benefits for employers in terms of pension and healthcare commitments. But it also poses a raft of challenges in terms of how they build, manage and motivate the workforce, and how they deliver a workplace experience that can support these flexible styles of working.

From an HR perspective, digital talent management platforms will play a critical role in helping businesses harness the power of artificial intelligence (AI) to identify and connect to the best available skills from a global talent pool. Career paths and performance measurement for full-time employees will be rewired around skills and results, rather than length of service or job title.

Businesses will have to be able to provide seamless access to corporate data and systems to casual and remote workers. Intelligent security platforms will be needed to ensure that the right people have the right level of access to the relevant corporate data, and this needs to be updated in real time to support a more fluid workforce that sits both inside and outside the company walls.

The office will be transformed to enhance wellness and health.

The physical workplace environment of 2025 will be unrecognizable from the one we see today.

With freelance and mobile workers dominating the workforce, businesses will have dramatically cut back their office footprint from today's level. In sectors such as government and professional services, some organizations will reduce their real estate by as much as 50% over the next decade[11]. Instead, they will encourage employees to work out of

collaboration hubs or co-working spaces managed by third party firms.

These hubs will utilize projection-based technology that can turn any surface into an interactive virtual screen. This will enable employees to create a more collaborative and immersive experience, activated and controlled by voice assistance and gesture control technology.

Offices will include spaces that will be modular and flexible enough to support the diverse needs of different workers. Wall color and lighting will be dynamically adapted to suit a formal client pitch or an informal team meeting, and biophilic design approaches will enable staff to meet, work or lunch in internal spaces that incorporate trees, plants and lawn areas. A Harvard study found that workers in green-certified offices get a 26% increase in cognition, with sickness-related absences down by 30%[4].

Workplace devices will have automatic locking apps that force workers to take walking or exercise breaks in the green spaces or recreational areas. The mantra of "sitting is the new smoking[5]" will become embedded in working best practice guidelines. Sleep and meditation pods will also be available to ensure that workers leave the office feeling energized and motivated.

Wearable technology such as smart glasses will help to manage employee workloads and stress levels by monitoring their levels of concentration. Once they assess that the individual is immersed in a particular task, they will automatically filter out non-critical communication.

Wellness will also be enhanced by the use of fully ergonomic chairs that use biofeedback technology to automatically adjust to the position that the individual finds the most comfortable. And comfort will be improved by the use of drones and bots to ensure that not only canteens and coffee machines are fully stocked, but also able to deliver to the worker's desk.

"Employee Experience" becomes the key measure of success.

In 2025, organizations will look beyond the concept of "user experience" and take a more holistic approach in assessing employee performance and engagement.

The notion of "employee experience" will become increasingly prominent as businesses look beyond productivity, engagement and culture, and take a wider, integrated view on all the processes that impact people in

<<Organizations have to transform their existing employment policies in hiring and retirement. They need to hold on to their talent by providing flexible workstyles that allow employees to balance work with childcare and elderly care.»

Hiroshi Nishikawa
Director, Technology & Service Vision Department, Strategic Planning Division, Marketing Strategy Unit, **Fujitsu**

their working lives. This covers human resources (staff onboarding, training), management (performance, career path) and the general workplace environment (wellness and fitness).

This shift will require new tools to assess overall employee satisfaction, and there will be widespread use of the employee Net Promoter Score (eNPS). However, it will also require much closer collaboration between the different functions of the organization in order to develop an end-to-end view, and this is something that most organizations will have to work hard to implement in the coming years.

As with many of the trends that are impacting the workplace as we move towards the 2025 horizon, technology is only part of the solution. The future workplace strategy will have to be underpinned by more joint initiatives between stakeholders in functions such as HR, facilities management and IT to take a more holistic approach across employee performance and wellbeing, technology and the physical environment.

Recommendations

- Delivering the lifestyle workplace will require a major shakeup of management structures, HR processes and workplace technology. The organization needs to build the appropriate HR structures and career maps to create more flexible roles that are designed around their employees' lifestyles and aspirations.
- Workplace technology planning needs to be rethought to focus on supporting a workforce that is rapidly changing in terms of size and location. With the need to support a growing body of freelance and remote workers, the focus will shift to ensuring that staff have the ability to access the necessary tools, systems and data that they require to be fully productive, regardless of location. A robust, non-intrusive security layer should be developed to support dynamic identity management. Are the processes in place to ensure that new workers are granted access while departing employees or contractors are automatically blocked?
- Monitoring the "employee experience" impacts many areas. Look at how your current KPIs and performance tracking tools need to be adapted to support considerations such as health and wellness as well as performance and career progression through a single pane of glass.
- Test the potential impact of new working practices at a departmental level to better understand what processes and underlying technology needs to be adapted, and assess the impact on productivity.

- Wearable technology can be used as an effective way to measure employee wellness and productivity. What are the areas of your organization where this can be tested through a pilot project?
- One of the biggest challenges for companies as more and more of their workers move away from full-time contracts, is how they can foster a sense of company culture. This can be helped by regular town hall meetings and other internal networking events - both virtual and physical - that will encourage a feeling of belonging to a community with a shared purpose and set of values. Scheduling time for leaders to be at different sites for a couple of weeks will make employees at those sites feel more connected to the management team.

2. THE INTELLIGENT WORKPLACE

Technology already surrounds us in the workplace, but we are about to enter an age where it will become embedded in every aspect of working life.

By 2025, virtual assistants will take away much of the drudgery from the working day by dynamically managing business calendars and commutes, booking meeting rooms and completing time sheets and expense forms.

Artificial intelligence will deliver a huge leap forwards in enhancing the employee experience, by generating new levels of insight into employee behavior, preferences and context. AI will also play a key role in defending against an escalating cyber security threat, which will increase in sophistication as more areas of the business – from the office entry system to the coffee machine - become connected to the Internet of Things.

Here are three ways that technology will impact the workplace in 2025:

AI will completely reshape the business.

Forecasts from industry associations, academia and research firms vary wildly in their assessment of how AI will shake up different areas of the workforce. Many expect a negative impact on those roles attached to repetitive, structured processes such as accounting, bookkeeping, retail sales and fulfillment and insurance underwriting. Others point more optimistically to the fallout of the introduction of the automated teller machine (ATM) in the 1980s, which reduced the operating costs of banks but also enabled them to open more branches – and employ more workers. Elon Musk, the

<<I see the potential for much wider integration into voice activated systems and chat-bots as we move to a world of ICT that is inhabited with more anthropomorphic based systems. Alexa, Siri and Cortana are the starting points for this but we will see more advanced platforms in place by 2025.>>

Robin Lipscomb
Director of Portfolio & Offerings EMEIA, **Fujitsu**

CEO at Tesla and Space X has suggested that more stringent Government regulation will be required to control what he views as a fundamental risk to civilization.

This poses a big question for workplace strategy leaders. Which departments are likely to shrink or expand in size over the medium term, and what sort of work will they be performing? This will have a significant impact on the future shape and structure of the organization, as well as planning around office space, recruitment and training. Many businesses are starting to look at how they can educate key areas of their workforce to cope with the changes that AI will have on the roles.

To date, much of the focus for advanced automation has been on structured, scripted tasks. But in the medium term, the ability of machines to take over unstructured tasks will become much more mature. Machine learning is reaching a level where complex, ad-hoc organizations or processes with a tendency to change on a frequent basis can also be automated. The larger implication is that many clerical jobs relating to organizational work will no longer exist by 2025.

Businesses will be looking to build layered organizations with senior strategists and people who act on data that is generated through automation. The skills focus will shift from people who collect data and write applications to people who can interact with robots, with the coding done automatically. Skills will become more analytical in nature, and it is a trend that has already played out in the area of big data, where over the last five years, the most in-demand and valued skills have moved from collection and storage to data scientists. Those roles that involve human interaction will increase in importance, while more transactional activities will be the ones most significantly impacted by automation.

Intelligent assistants will take the pain out of the working day.

In 2025, AI will underpin a more personalized, dynamic and intuitive user experience.

All areas of the workplace will incorporate AI in order to speed, automate or contextualize everyday activities. This will start from the moment the employee wakes up, with their alarm time adjusted to take into account a meeting cancellation or problems with their commute. If the traffic doesn't look good, the employee will automatically be provided with the apps and services they need via their home devices, and their schedule will be adapted accordingly. If the traffic looks fine, the employee will be able to access their work messaging services and other relevant business

<<In terms of the evolution of biometrics, I expect fingerprint recognition to fade out a bit as it is one of the least secure from a biometrics point of view. It will be replaced by Iris recognition and I also see palm recognition kicking in more due to its low failure rates.>>

Jörg Hartmann
Vice President, Head of Product Category Management, EMEIA, **Fujitsu**

tools in their connected – and increasingly driverless – vehicle.

On arriving at the office, their car will use GPS data and sensors to find the best parking space, and will gain access to the right part of the building using smart biometric technology – which in a small number of cases, may include human microchip implants. Holographic receptionists will provide a personal greeting and by analyzing sensors at desks, will direct the individual to a workstation that is located in the same area where the people they work the closest with are already set up.

By mining data on past interactions, an intelligent assistant will also prompt an employee to put a meeting in the calendar with a contact that they regularly catch up with – or an overdue visit to the office fitness center. It could also help them to understand the deliverables from a recent project, and suggest potential contributors for follow-up engagement, automatically synching schedules and arranging collaboration sessions.

Understanding the context of the user will become the key to enhancing their experience. Organizations were traditionally provided a workplace environment based on devices that were connecting to the corporate network, and the identity and access rights of the user.

But fast-forward to 2025, and businesses will be looking at the context of what the user wants to achieve. What are the applications that they tend to work with from a certain location or at a certain time of day? What communications or collaboration channels are appropriate to be opened up if the user is in transit? Understanding the context will help to provide the optimum response to the user and that contextual analysis will increasingly be underpinned and enhanced by artificial intelligence.

Technology will not just provide a better day-to-day experience. By 2025, wearables will also play a key role in improving health and safety – particularly in critical infrastructure sectors such as transport, energy or defense. Devices will monitor user behavior and make changes to their environment through connected sensors to improve their comfort or productivity. Lone workers in dangerous environments such as mines or nuclear power plants can have their location and physical status tracked more accurately and wearable devices can trigger an automated medical evacuation in the event of an accident.

Of course, data privacy will be a hugely important issue, and providing the employees with transparency and control will

be crucial to achieving buy-in. The employee's personal data and location-based stamps should be private, and the employee should have the ability to audit and edit the data.

Constant authentication will drive effective and non-intrusive cyber security.

A new approach to cyber security will be required in 2025, if businesses are to protect their data assets in the face of escalating and increasingly sophisticated attacks.

Changing workstyles will have significant security ramifications. One of the main issues that needs to be addressed is the vulnerability of unsecure public networks, which are becoming an increasingly common means for workers to access corporate applications. Users are often using personal devices to access enterprise data while on the move, using WiFi connections that incorporate very little in the way of security defenses. The majority of businesses have so far put this issue to one side, but it is one that needs to be tackled through policies and automated contextual rules that ensure a rigorous approach to protecting data, while allowing a more flexible approach to less sensitive processes and activities.

Artificial intelligence is already playing a critical role in helping businesses identify potential cyber threats, but by 2025, it will also be an important aspect of ensuring that the right people have the access to the right company data and applications. Advanced analytics tools will identify users based on their role, behavior and historical use pattern, such as the way that they type their password. This will help confirm that the individual is who they are claiming to be, and identify if they are doing something out of the norm compared to their peer group.

Indeed, by 2025, many organizations will have moved to a state of constant authentication, where devices and wearables will always be verifying an individual's identity based on a huge number of factors, such as biometrics, location, and keystroke mannerisms. This will be a much less intrusive and more effective way of identifying the characteristics of a valid user, beyond multiple username and password barriers, making security less of an obstruction to productivity. By making this a standard authentication layer across all aspects of the workplace, employees will be able to open doors, instruct the coffee machine to make their preferred flat white, and to automatically see their home screen appear on any device in the office – without having to provide any additional verification.

<<Many businesses have traditionally had a security mandate that will override the productivity mandate. The objective with AI is to get to a state where you make security seamless and invisible to the user.>>

Calvin Hsu
VP, Product Marketing,
Citrix

By 2025, the use of biometric technology to enable secure access to devices will be truly in the mainstream. We are already seeing the first implementations of iris, palm vein and fingerprint authentication, with the emergence of tools such as Microsoft's "Hello" facial and fingerprint authentication also driving the market. Biometric authentication is already being used in environments as sensitive and demanding as military and intelligence agencies. Over time, fingerprint recognition will be replaced by iris recognition and palm recognition due to their low failure rates. Voice recognition is at an early stage of adoption in the mainstream, but by 2025, businesses will leverage voice assistant technology such as Cortana, Siri and Alexa as part of a more stringent multiple-factor authentication strategy.

Recommendations:

- Businesses need to develop a vision of the roles they will employ in the longer-term, to lay the foundations in terms of office space, infrastructure, organizational structures they will need to support a workforce that will be reshaped by AI.
- Data management will become one of the biggest challenges facing the business. Human data management will become a major task for the HR function. The organization needs to decide what data sets they are going to start collecting on employees, and build the appropriate data management platforms to support future requirements.
- In order to realize this future, businesses will have to gather much more data on their employees. AI can also play a crucial role in ensuring compliance with privacy regulations, in terms of identifying and processing the relevant data. Businesses should seek advice on best practice, and their approach will depend on the culture of the organization, between what employees consider to be too private (their movements outside of the office space for example) and what they are happy to share. They also need to be clear on the benefits for employees (smoother security, more personalized experience) in order to get buy-in.
- The type of cyber skills that your organization will need is going to significantly change. There is not an abundance of ethical hackers, IoT security experts or AI practitioners in the market today, but businesses need to start planning to train, retrain or work with a partner to ensure that they can fill these gaps in the medium term.

3. THE LOW-IMPACT WORKPLACE

Introduction

Corporate responsibility will become an imperative in 2025, and the impact of the organization on the environment will be something that is much more closely scrutinized by investors, regulators and customers, who will divest, penalize or take their business elsewhere if a business isn't heading in the right direction with its climate strategy.

Once again, the influx of millennials into the boardroom is a driving force behind this change in mindset. After all, this is a generation where 70% are willing to spend more with brands that support causes they care about[7]. Here are three key trends we expect in the workplace in 2025 as a result of environmental issues:

Work patterns will change as businesses are held to environmental targets.

By 2025, providing a detailed breakdown of carbon emissions and disclosing the potential financial cost and impact of climate-related risks will become a standard part of quarterly and annual reporting.

While in some countries, this reporting may remain a voluntary rather than a mandated process, business leaders will be held accountable by shareholders and investment groups if they fail to deliver on their climate strategies.

Changes in energy mix will play a key role in companies achieving significant carbon reduction. By 2025, global insurer AXA expects to be running on 100% renewable energy sources worldwide, while software giant SAP expects

its operations to be carbon neutral as a result of initiatives such as the roll-out of carbon neutral fuel cards for company vehicles and carbon pricing models for CO2-free air and train travel.

Data centers are one of the biggest areas of energy consumption at any large organization. But by 2025, a large proportion of businesses will have reduced their own data center footprint and will be accessing applications run by partners in highly efficient cloud data centers. More than a quarter of software expenditure will go on software-as-a-service, rather than on-premises licenses by 2025[8].

Tracking carbon footprints down to the level of the individual employee will become common practice by 2025. The business will use apps or data taken directly from wearable technology to assess the carbon efficiency of employees' commutes, which will be monitored and measured as part of their KPIs. Bicycles will outnumber cars in major European cities, and the number of commutes will fall significantly, resulting in a massive shrinkage of office real estate. One side effect will be reduced tax contributions from real estate, which will pose a new funding challenge for state and local government agencies.

Virtual meetings replace commutes.

So if workers aren't spending as much time in the office, how are they going to interact and collaborate in order to drive innovation?

In 2025, the most successful businesses will have implemented platforms that don't just allow workers to communicate from any device from any location, but also provide an experience that enhances the conversation.

Communication will not just be voice- or text-based, but will increasingly incorporate multimedia such as high-definition video. Virtual reality (VR) will also have entered into the mainstream in corporate life as the hardware becomes less bulky and intrusive, enabling remote teams to come together in the same virtual environment.

The virtual meeting space does not have to be a dull office, it could be a virtual forest or beach or any other environment that sets the right mood for the purpose of the conversation. Employees will be represented in the session by an avatar, which with the aid of 3D cameras could take the form of an accurate simulation of the individual. And the team will be able to illustrate and share ideas on a virtual white board or through the creation of 3D sketches in the virtual

environment, using tools such as Google's Tilt Brush technology.

There is a lot of work required to achieve this vision. Much of the software that knowledge workers use today in their work routines were originally designed to support a clearly defined process, that was shaped by the mindset of the industrial age. But by 2025, successful enterprises will have rolled out integrated workplace solutions that are able to collect, analyze and process structured and unstructured information from different sources. The way that software is coded and run will change significantly to support this shift. Large monolithic systems will be replaced by new approaches to development which will see applications become much more easy to customize by business users.

The potential rewards from this new approach to communication and collaboration are huge, and not just in terms of enhancing employee interaction. Research from SAP claims that technologies such as video conferencing could help save 7.6Gt carbon emissions by 2030 in industries such as utilities and transportation[9].

Office buildings get truly smart.

Technology will play a major role in terms of increasing the energy efficiency of physical workplaces.

By 2025, employees will have their (increasingly autonomous) vehicles automatically guided to the right spot in the car park, where a robot will vertically stack their car. On entering the office, elevators that travel horizontally as well as vertically will make getting to the desk both faster and more energy efficient.

The line between the natural and the office world will become increasingly blurred. Some environments will incorporate wall panels that contain algae which grows according to the amount of sunlight exposure. The panels provide more shade in summer and less in winter, reducing the need for creating a natural temperature system that reduces air conditioning and heating consumption.

Many businesses have already introduced smart lighting, thermostats and air conditioning systems into the workplace environment. By 2025, artificial intelligence will automatically set them to the preferred levels of an individual before they enter a particular area, based on analysis of their past behavior and the meetings scheduled in their calendar.

3D mapping will provide a bridge between the physical and digital working environment. By being able to map – in real

<<There are places opening in Hawaii where people can work in their shorts and at anytime they want. Employees are demanding when and how they work. It doesn't matter what place you are in – this trend will increase further.>>

Ramanan Ramakrishna
VP MIS Service Innovation and Portfolio EMEIA, **Fujitsu**

time – vacant meeting rooms and workstations, employees can be instantly guided to an available space, while lighting, heating and power supply can be switched off. By analyzing employee schedules, information can be relayed to the smart power grid to alert it to anticipated peaks in consumption in the days and weeks ahead.

In order to get the most out of this new level of smart connectivity, businesses will have unified all the different elements of the connected workplace environment through a single technology platform. New services can easily be plugged in making it more responsive to the changing needs of the workforce, while an easy-to-use app gives employees easy access to managing all aspects of their office experience at the touch of the button.

Recommendations

- Organizations need to rethink their current approach to building collaboration and communication platforms. Business activities today typically start with and are determined by discussions with colleagues, clients, management or external partners and suppliers, underpinned by conversational platforms. But by 2025, communication and collaboration activities will come to the forefront of workplace design, supported by information stored in process application systems, and not the other way round.
- The user interface should enable collaborative work styles naturally and in a personalized way. The business logic should provide a single point of access and management and address the preferences of individual knowledge workers, rather than the needs of individual technologies. Unified data processing capabilities should be able to collect and process both structured and unstructured information from multiple sources.
- Businesses should review how their environmental impact is currently measured in their organization and look at how this can be broken down to assess the impact of the individual worker. What tools and incentives can be put in place to drive the right behavior while maximizing productivity? Gamification can be one way to drive participation, with rewards handed out to the employees who make the biggest reductions over a quarter or a year.
- The smart office carries great potential benefits in terms of energy efficiency and improving the workplace experience. But having everything from the coffee machine to the air conditioning system connected to the Internet opens up a massive attack surface for hackers to target. A successful hit could paralyze operations, meaning that a holistic approach to security – from sensors through to communications network and applications – will be essential. This needs to be driven by a single point of accountability, either in the traditional IT function or in operations.

4. THE BOUNDARY-LESS WORKPLACE

Businesses will need to become more agile in order to adapt to constantly changing economic conditions, competitive landscapes and customer demands.

Organizational and workforce structures will become more fluid in terms of layers of management and flexible working practices. Meanwhile, traditional industry models will be broken down, driving new models of collaboration.

This will require an approach to the workplace that supports more effective and richer collaboration on both a small and industry-wide scale. Here are three major business and industry shifts that will impact the world of the workplace in 2025:

Most companies will not exist in their current form in 2025.

A major study of CXO-level executives by Fujitsu found that more than half expect their business to have a different form in five years time, while three quarters expect the industry in which they operate to fundamentally change[10].

By 2025, organizations will have transformed their core products and services, and will also have rewritten the rulebook on the structure upon which a successful corporation is built.

Rigid managerial hierarchies and departments will be ripped up and replaced with collaborative networks of smaller

teams. Employees will no longer have a fixed managerial role, but will take up leadership positions on different projects that play to their strengths.

Both internal and external freelance employees will be encouraged to pitch to take part in these projects. This will enable workers to broaden their experience outside of their traditional remit, giving them greater variety, new skills and the kind of challenge that may keep them interested in staying at that employer for a longer time.

This flexible world will be underpinned by business processes and a technology infrastructure that are no longer held back by legacy constraints. Cloud-based computing platforms will enable teams across all parts of the business to rapidly test new concepts and ideas and to scale them up as they enter production.

Employees will no longer be seen through the lens of a single role or workstyle and the tools, applications and corporate services that they work with on a day-to-day basis will dynamically adapt to support their requirements on a specific project.

<<Enterprises and organizations need to establish a new partnership model to enable more effective collaboration with external parties. They also need to develop guidelines for information sharing and disclosure to partners to protect privacy and security.>>

Hiroshi Nishikawa
Director, Technology & Service Vision Department, Strategic Planning Division, Marketing Strategy Unit, **Fujitsu**

Businesses will co-create as part of digital ecosystems.

By 2025, companies will increasingly look beyond the walls of their own organization in order to innovate.

While the digital revolution has so far primarily affected individual companies, it will increasingly cut across sectors by 2025. Smart digital ecosystems will increasingly be based on cross-industry partnerships and will therefore impact multiple sectors at the same time.

Connected vehicle ecosystems, will affect the automotive manufacturers, insurers and logistics companies. Smart home ecosystems will impact the business models of energy utilities, home appliance manufacturers, telecom operators, insurers, home security specialists and many more.

Financial services companies will reinvent traditional processes through external collaboration. During the process of making a mortgage offer, banks might also recommend an estate agent, and connect the customer with a removals firm, offering an end-to-end service through a group of industry partners. Ultimately, this means banks reselling a range of services that are far away from traditional financial products.

Digital ecosystems address customer demands in entirely new ways: not from the perspective of an individual service

provider but from the perspective of a complex human need, irrespective of traditional vendor or industry categories. In the ecosystem economy, competitive advantage will be determined not by the strength of a single company but by the strength and innovativeness of the entire ecosystem and its partners.

This will also be enabled by major technology change. Data platforms will increasingly serve as the integration layers that connect various customer touch points and services from different partners within the ecosystem. The widespread use of open application programming interfaces (APIs) will open up core business applications to external partners and enable service integration. Inter-company file-sharing systems will also be put in place that incorporate additional security and administration layers to ensure intellectual property protection.

Global crowdsourcing drives a new era of scale.

In 2025, the fastest-growing businesses will be able to instantly identify and tap into skills from a truly global talent pool.

Online platforms that match employers with freelancers will become the primary channel for recruitment, with McKinsey estimating that by 2025, more than 540 million workers will have used a platform such as Amazon's Mechanical Turk or Upwork to find a job[11]. And businesses will increasingly harness advanced screening algorithms to identify the best individuals for a specific project or job based on analysis of data aggregated from multiple sources, including internal HR systems and social platforms.

This will dramatically accelerate the recruitment process and will cut the time that individuals spend between jobs. It will also enable companies to ramp up their resources in a short period of time. Building a team of 200 to support a product launch in a new territory, or pulling together a crack squad of 50 experts to integrate a merger will take a matter of days rather than months.

Once again, this will require a truly flexible technology backbone that enables workers to be rapidly on-boarded into the organization (leveraging biometric data to verify their identity) and can provide secure access to relevant tools and systems to workers that are potentially based anywhere in the world.

The concept of crowdsourcing will also evolve to a stage that by 2025, it is working in tandem with artificial intelligence to drive much more accurate and valuable outcomes.

The crowdsourcing model, where businesses tap into global platforms of freelance experts to source insight or skills such as problem-solving research, testing and analysis, has failed to deliver in many cases due to issues with quality control, sufficient participation or a lack of understanding of what the client is trying to achieve.

But by 2025 it will become much more effective as AI helps organizations to target and involve much more specific and relevant groups of participants and experts, whose role will increasingly be to apply human judgment to the findings of the AI engines.

Recommendations

- Many businesses will need to re-think their approach to R&D and innovation. Don't focus on individual service or product innovations but rather on open co-innovation within an ecosystem of partners - how can you provide better services by combining offerings from various partners within an ecosystem?
- Be aware that the strategic technology decisions you are taking today can have major impacts on your future options for building or joining a business ecosystem. Openness of the technology and size of the existing ecosystem around the technology will become highly important decision criteria.
- The technical, legal, business and cultural complexities of digital ecosystems are significant. New contractual models will be needed, interoperability and standardization issues will have to be negotiated between players and the strongly rising security requirements will have to be addressed.
- In the era of digital ecosystems, businesses will need to engage with external technology suppliers in a different way. There will still be a place for transactional engagements for the supply of commodity services such as public cloud capacity. But organizations will increasingly be looking to move towards partnerships with key vendors to help them tap into the innovation offered by small innovative companies from all over the world.
- The role of the partner will be to manage these ecosystems and to provide a platform and framework through which its customers can rapidly plug in to the services and skills that are available, while handling issues such as security and financial risk management. This model of digital co-creation carries the potential to deliver much greater business value than the rigid contractual models that dominate the market today.

<<The security strategy for larger corporations makes it difficult for them to engage with smaller organisations and they are not willing to open up their critical systems to a level that makes it more vulnerable. Instead they will look to work with partners that have trusted systems that enable this collaboration.>>

Dr Joseph Reger
VP, CTO, EMEIA Region,
Fujitsu

5. THE CROSS-GENERATIONAL WORKPLACE

The structure of the workforce in 2025 will be radically altered by demographic shifts.

There will be a collision of generations as millennials become the dominant presence, and Generation Z digital natives rub shoulders with Generation X employees who will remain active in the workforce into their late 60s and beyond.

Generation fusion – with Xenialls, Genials and Millenials working together - will be a major challenge and organizations will support this diversity with flexible working practices and personalized experiences, while transforming their approaches to knowledge management and training.

Here are the three main areas where demographic change is set to impact the workplace:

Gens Y and Z will dominate the workforce – and redefine corporate culture.

One of the biggest challenges for large established organizations across all industry sectors will be to provide a workplace experience that is sufficiently agile and compelling to support the needs of younger workers.

The millennial generation, born between 1980 and 2000, will represent more than 50% of the workforce by 2025[12]. Millennials expect instant access to information, with three quarters believing that access to technology makes them more effective at work.

However, a potentially greater challenge lies in supporting the needs of Generation Z workers (born between 2000-2009), which by 2025 will represent more than 20% of the global workforce. This generation is growing up in an era where constant change is the norm, be it in social, political or economic climates or in the growing impact of technology across all areas of their lives. The ability to connect with a global community, in order to collaborate and to share and create ideas and content are second nature. Gamification is playing an integral part in their education and by the time they enter the workforce, they will have become accustomed to a seamless, responsive and highly personalized digital experience through the advances made in areas such as artificial intelligence.

Businesses will find themselves challenged to provide a user experience that at least matches the level workers receive through personal devices and applications. Providing the tools and the platform to create and share innovation, not just with colleagues but with a wider ecosystem will be critical to harnessing the full potential of a generation for whom social media is the preferred channel of communication. Social enterprise platforms will have replaced e-mail as the main channel of internal communication by 2025.

But technology will not be the only success factor in engaging with younger workers. A good work/life balance is seen by many as more important than financial reward, socially and environmentally responsible employers are seen as more attractive, while the ability to work in different locations, underpinned by flexible working practices, also a major pull factor. As they take up leadership positions, these values will become embedded in the defining features of corporate culture and working life.

Employees will be working into their late 60s and 70s.

In the majority of developed economies, the population is ageing rapidly. This trend is at its most extreme in Japan, where people aged 65 or over will make up 30% of the population in 2025[13]. A similar picture is emerging in other leading economies, such as Germany, where over-60s will account for close to 30% of the population in seven years time.[14]

By 2025, the age of retirement will have been raised in most – if not all – major economies in order to tackle mounting pension and healthcare costs. This means that organizations will need to support the preferred work styles and experiences of older staff members in order to keep them

<<Companies need to understand the working preferences of their employees. A company with an ageing employee population has an opportunity to use technology to help them with the changing world. Equally in some areas a large number of people are retiring and companies can use technology to avoid the risk of losing that knowledge.>>

Karyn Jeffery
VP & Head of End User Services, Global Delivery, **Fujitsu**

engaged in the business. Again, a key component of this will be taking a more open approach to flexible working arrangements. Recent research has found that as much as 84% of organizations see flexible working as a critical factor in keeping older, experienced workers in the economy.

The increased participation of older workers will provide benefits to the wider economy in terms of reducing the burden on the pensions system, but will also extend the life of valuable legacy skills within the business that are not being taught to the younger generation. For example, many banks continue to use core banking systems that were developed using code that was first written in the 1980s or 1990s and due to the complexity and risk of migration, are unlikely to have wholly replaced this technology by 2025.

Technology will play a key role in extending the working life for many employees. We have already touched on the renewed focus on wellness and how wearable technology can be used to track personal health data and predictively identify any potential conditions that should be reviewed by a medical professional.

But age will become less of a barrier even in some of the most physically demanding of roles. By 2025, sectors such as manufacturing and retail will be using exoskeleton technology to help older industrial workers to perform tasks that exceed their own strength, but also to augment and support workers in repetitive jobs in order to prevent and reduce injuries.

Continuous training and learning through augmented reality.

Business will also make radical changes to their approach to training and expertise development.

Annual ad-hoc training to ensure that legacy skills are topped up will be replaced by continuous programs of retraining in order to ensure lasting relevance to the business and provide a more immersive and lasting experience.

Training options will be diverse to reflect the different generational preferences. Gen Z workers prefer to consume information by switching between multiple devices and platforms, and have a natural instinct to research information across multiple sources. Training will need to broken down into intuitive, easy-to-consume digital packages, rather than lengthy courses or seminars.

Older employees will also play a hugely valuable mentoring role, so businesses will also need to ensure that they have a

<<The skills focus will shift from people who collect data and write apps to people who can interact with robots, with the coding done automatically. I expect skills to become more analytical in nature.>>

Ramanan Ramakrishna
VP MIS Service Innovation and Portfolio EMEIA, **Fujitsu**

well-defined approach to knowledge sharing. Increasingly, this will leverage technology such as augmented reality (AR), where younger employees will be able to tackle tasks with real-time assistance and insight from experienced colleagues.

A good example of this is Japanese water services company Metawater, which wanted to transfer the skills and experience in water facility repair and maintenance from engineers approaching retirement to the next generation workforce. It was able to do this by arming engineers with tablet computers running augmented reality software and cameras, enabling them to guide technicians through their instructions.

Recommendations

- Rethink current career paths to get employees more excited about staying within the business longer-term. Younger workers will tend to prefer a more diverse progression that sees them make a number of regular horizontal moves in order to broaden their experience and skill set. Foster a greater culture of entrepreneurship by breaking up traditional management hierarchies and rotating project leadership positions.
- Leverage the wisdom of older workers by developing more effective knowledge sharing and management platforms and approaches that enable them to share insight in real-time, such as augmented reality. Put the right incentives in place to encourage knowledge sharing, such as bonuses for the most utilized content.
- In a world where employees will be spending less time at a single employer, and businesses will be working with more freelancers, knowledge management needs to be automated to ensure that the company does not lose the expertise or experience the moment that someone walks out of the door. Data science tools and techniques can be used to automate knowledge extraction and categorization, and ensure that it is easily accessible in a digestible form such as video.
- Training needs to be a continuous process for old and younger workers alike. The way that individuals prefer to train is not necessarily defined by their age, and providing a diverse content program is essential, covering seminars, video content and gamification. The key skills that the company will need to support a successful longer-term workplace are scarce, and businesses should start to retrain existing resources on topics such as agile team leadership, data science and cyber expertise.

Overall Recommendations

The workplace in 2025 will provide an engaging and exciting experience to a connected workforce that is collaborative, creative and energized.

This may seem a long way off in the distance, but organizations need to start laying the foundations now if they are to be ready for the shape of things to come.

Businesses should first look to develop their workplace vision, which is specific to the unique needs and culture of their organization, and how they will evolve over the medium term. Once the vision is in place, then a diverse stakeholder community – drawn from all corners of the business - needs to work together to create workstyle strategies and transform the technology, processes and policies.

A successful workplace strategy will be critical to unlocking the potential of the workforce to innovate, collaborate and drive business value, and key to attracting and retaining the best talent. The shape of all organizations will change dramatically over the course of the next decade. But businesses need to ensure that their short-term investments give them the platform to support their longer-term ambitions.

There are several key aspects to consider.

Plan for a smaller, more agile workforce: More freelancers and flexible workers, and the increasing automation of manual repetitive roles will mean that the majority of companies will have a much smaller core of full-time employees. This will require a significantly reduced office space, and the nature of the remaining spaces needs to be reinvented to better support collaboration and co-working. Business leaders should start to create new positions, career paths and incentives that are designed to support smaller collaborative teams that are led and staffed by flexible and often freelance workers, rather than the current hierarchical structures that exist today. They should experiment at a departmental level to begin with, making sure that they have a clear understanding of current productivity and innovation levels and working patterns, and measure how this changes over time as they introduce new practices such as rotating leadership positions for new projects, allowing increased time for collaboration with external organizations, and making use of crowdsourcing. There is also a need to measure the impact this has on "softer" aspects such as the health and motivation of employees.

<<There is no perfect plan or blueprint for 2025. You have to start doing something now and expect it to change going forward. For instance, get cross-generational workers involved on exploring ways to reduce dependency on devices and locations. It will have a positive impact today and help your workplace evolve for the future.>>

Calvin Hsu
VP, Product Marketing,
Citrix

Break down the silos to get real value from data. Data will be the lifeblood of every successful business in 2025, mined in real time from all aspects of the workplace – from worker's wearable devices through to connected sensors in the physical environment. AI will enable this to be analyzed and acted upon in an automated way, but organizational rather than technological aspects will have a bigger influence on the success of how this data is turned into an improved experience or increased productivity. Businesses need to break down the silos in their organization in which data currently resides and create a central team of experts – including data stewards, analysts and statisticians - to ensure a holistic approach. The real value will only be achieved if data on an employee's schedule or location can be matched with insight on their health and their performance targets. An effective approach to data security and privacy will be key, and businesses need to be clear with their employees as to what the potential benefits of sharing more data on their workplace experience – potentially including personal information on health and fitness – and be transparent about how this data is being used in order to get full buy-in. Privacy issues need to match country-specific requirements. The type of data that a US employee is happy for their employer to collect and track may not be considered acceptable by a German employee.

Security needs to become an enabler not a barrier. A robust cyber security policy and framework is critical today. But the challenge for most businesses in the coming years will be to ensure that it becomes a more seamless and effective way to access corporate services, rather than a barrier to productivity. Simply adding more and more layers and factors of authentication will frustrate workers, and businesses should look to make it as less intrusive as possible. Work towards developing a unified layer of identity management that leverages AI to run constant authentication of the user in the background, based on biometric and behavioral analysis. To enable this, businesses should start to look at collecting data on user behavior and ensure that new business applications are developed with the ability for them to be constantly analyzed and evaluated. Everything will be connected to everything. Your light bulb or the coffee machine could be the next attack vector. It will be important to understand the risks in IoT in order to isolate and contain them.

Escaping legacy constraints doesn't require drastic change. There is huge innovation on the horizon in terms of how employees access, share and utilize business data, be it collaborating via virtual reality headsets, or creating 3D holographic images using gesture control technology. But this can only be enabled if the data is easily accessible from

the applications that sit at the core of the organization – and this is a big challenge for most businesses. A PAC study of senior executives at over 500 large enterprises[15] found that 70% believed that less than half of their current applications are fit and able to support the future digital strategy of their organization. Moving away from these legacy constraints does not have to mean ripping out and replacing everything. Businesses first need to get a clear understanding of where their most valuable data currently resides and focus their development efforts and investment on these areas of the application landscape. This data can be migrated to more flexible, open platforms where it can be accessed by both employees and by a wider audience as part of co-creation ecosystems.

Ten Features of a Successful Workplace Strategy in 2025

1. Focus on employee experience that covers all aspects of working life, from onboarding through training and career path progression, through to wellness and fitness.

2. Highly flexible and mobile IT able to support needs of a changing and diverse workforce – including freelancers and gig workers, Gen Z, millenials and older employees.

3. Employees able to seamlessly access work applications from any device – be it the smart TV in their home, a connected vehicle on their commute, or their preferred desktop device.

4. The workplace is no longer tied to a physical location. The smart, connected office environment is a hub to enable collaboration and innovation.

5. Voice-controlled, touch screen devices and wearable technology drive an immersive, collaborative experience.

6. Artificial intelligence drives a personalized experience that dynamically adapts to user preferences, context, location, and device.

7. Secure access to enterprise data and applications enabled by behavioral analytics biometric technology.

8. Knowledge sharing between employees enhanced by use of augmented reality – enabling workers to dynamically learn on the job.

9. Collaboration between internal and external stakeholders enhanced by unified communication platforms and intelligent assistants.

10. Partnerships with external suppliers to drive digital co-creation through management of innovation ecosystems.

APPENDIX

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