

# The Future of Work

BEHAVIORAL AND SOCIAL  
SCIENCE-INFORMED CONSIDERATIONS  
FOR A HYBRID WORK ENVIRONMENT

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# SUMMARY



## Workforce Development

Key Area for Behavioral and Social Science Research Considerations	Current Landscape	Future Research Directions
Ensuring Diversity, Equity, Inclusion, Accessibility, & Belonging	<ul style="list-style-type: none"> <li>Surveys conducted during the pandemic indicated that hybrid and remote work environments are more likely to be preferred by women and racial and ethnic minority populations.</li> </ul>	<ul style="list-style-type: none"> <li>Do hybrid remote opportunities enhance DEIAB across different organization and industry types?</li> <li>Research is needed on ways to enhance DEIAB in the new hybrid workplace.</li> </ul>
Recruiting & Retaining an Excellent Workforce	<ul style="list-style-type: none"> <li>Since the pandemic, workers are more likely to want hybrid/remote options and are less likely to want to relocate.</li> <li>Technology allows us to untether talent from location.</li> </ul>	<ul style="list-style-type: none"> <li>What are the best ways to transition an organization from fully in-person to hybrid or remote?</li> <li>What are the best ways to incorporate more traditional retention strategies within hybrid and remote work environments?</li> </ul>
Creating A Psychologically Healthy Work Environment	<ul style="list-style-type: none"> <li>Psychological health and wellbeing are essential in a modern, hybrid workforce.</li> <li>A psychologically healthy workplace goes beyond just job-related stressors and encompasses accountability and trust, involvement, psychological safety, sense of purpose, social connection and inclusion, workplace control, autonomy, flexibility during working time, decision-making, and workspace setup.</li> </ul>	<ul style="list-style-type: none"> <li>The interrelatedness and relative impact of the psychosocial factors on job satisfaction, perceptions of organizational DEIAB initiatives, and retention in hybrid work environments merits attention.</li> <li>Understanding how the psychosocial dimensions of workplace wellbeing impact attitudes, beliefs, and behaviors of in-person, hybrid, and fully remote employees is also a critical area for exploration.</li> </ul>
Increasing Digital Literacy	<ul style="list-style-type: none"> <li>Digital literacy is essential, but there is a lack of consensus about the specific ways to measure it, and existing measures may not take novel technologies into account.</li> <li>Digital literacy has not been widely assessed in the workplace, particularly among knowledge workers—those whose jobs involve handling or using information, and who may rely primarily on the use of a desktop computer or laptop for conducting their work.</li> </ul>	<ul style="list-style-type: none"> <li>Models for technology adoption should be tested in hybrid work environments and updated to include more behavioral and social science considerations.</li> <li>Digital literacy should be assessed in the workforce, and strategies targeted to the needs of the employee populations.</li> </ul>
Cultivating Leadership	<ul style="list-style-type: none"> <li>Organizations that can thrive in hybrid working environments must support and train managers on leadership for remote and in-person teams, soft skills, reworking processes originally developed for in-person work, and reframing assumptions about what defines good workplace management.</li> </ul>	<ul style="list-style-type: none"> <li>How do organizational boundaries and certain hierarchies within work environments impact motivation, productivity, and team cohesion?</li> <li>How does digital leadership play a role in leadership development?</li> </ul>

## Workplace Effectiveness & Wellbeing

Key Area for Behavioral and Social Science Research Considerations	Current Landscape	Future Research Directions
Enhancing Motivation & Engagement	<ul style="list-style-type: none"> <li>Employee engagement is associated with enhanced psychological and physical wellbeing, better task performance, and higher job satisfaction.</li> <li>Other key drivers of engagement include connections with colleagues, intrinsic motivation, and employee empowerment and autonomy.</li> <li>Positive organizational outcomes associated with employee engagement include greater productivity, decreased work errors, and less workplace attrition.</li> </ul>	<ul style="list-style-type: none"> <li>Organizations interested in bolstering employee engagement in a hybrid workplace could also benefit from identifying the most meaningful and impactful core principles of engagement, as well as optimal strategies for achieving these principles.</li> <li>Organizations may consider shifting from annual or bi-annual surveys to more frequent (e.g., pulse) surveys that can enable benchmarking the wellbeing and engagement of remote and hybrid employees and identifying opportunities for growth or improvement.</li> <li>Future work should focus on developing strong and validated measures associated with engagement and morale that are important for facilitating regular information flow and analysis.</li> </ul>
Minimizing Distractions & Disruptions	<ul style="list-style-type: none"> <li>The increase in remote or hybrid workplaces is linked with increased incidence of multitasking behaviors, reported work distractions, and interruptions.</li> <li>Multitasking and experienced distractions in the workplace is linked with an increase in workplace errors, reduced productivity, increased mental fatigue, and increased stress and anxiety.</li> </ul>	<ul style="list-style-type: none"> <li>Future research should explore strategies for maintaining or enhancing performance in various types of work environments and among diverse workforces.</li> <li>Future research exploring differential cognitive effects may illuminate the consequences of adopting various multitasking strategies and inform more optimal ways that some degree of multitasking may be achieved to benefit both the individual and the organization.</li> </ul>

<p>Fostering Collaboration &amp; Innovation</p>	<ul style="list-style-type: none"> <li>• Positive communication among employees, including formal and informal channels, are a critical way to address employee wellbeing, facilitate collaboration, and help achieve organizational goals.</li> <li>• Communication technologies, such as audio and video conferencing, email, and software to facilitate collaboration, play a significant role in helping employees complete job tasks, stay connected, and build social capital and culture within an organization.</li> <li>• Research regarding the impact of hybrid and virtual work on creativity and innovation is mixed.</li> </ul>	<ul style="list-style-type: none"> <li>• More work is needed to determine the optimal balance of in-person and virtual worktime to effectively collaborate and innovate.</li> <li>• The specific types of technologies and strategies needed to foster collaboration and innovation in a virtual or hybrid environments is also an important area for future research.</li> </ul>
<p>Building &amp; Maintaining Effective Teams</p>	<ul style="list-style-type: none"> <li>• Many of the currently available strategies for team building focus on teams in which workers are co-located or primarily on-site.</li> <li>• There are several emerging benefits to building and maintaining hybrid teams with geographically-dispersed subject matter expertise (e.g., reduced costs of travel, relocation, overhead, and hiring highly-skilled staff regardless of location).</li> </ul>	<ul style="list-style-type: none"> <li>• More research is needed on the methods and behaviors that leaders can utilize to build trust in their hybrid teams.</li> <li>• What characteristics of communication tools cultivate hybrid teams and promote collaboration within teams?</li> </ul>

# EVIDENCE-INFORMED CONSIDERATIONS FOR COMMON CONCERNS

This section of the report is intended to share evidence that addresses some of the common concerns related to hybrid and virtual work that cut across both workforce development and workplace effectiveness and wellbeing. The brief answers provided here are based on reviews of literature at the time of publication, but this is a growing and rapidly evolving field, and more research is needed to understand what works best, for whom, under what conditions, and why. It is also important to note the technologies and best practices enabling successful hybrid and remote workplaces have changed rapidly over the course of the pandemic and continue to evolve. As flexible workplaces become the “new normal,” particularly among knowledge workers, it is important to continue evaluating the technology solutions and best practices of hybrid and remote work to identify and address barriers and foster thriving workplaces.

## Question 1: Are in-person, remote, and hybrid employees equally productive?

- Remote and hybrid workers can be equally if not more productive than in-person employees.
  - Although many people believe that remote workers are less productive, a number of studies indicate that remote and hybrid workers are equally if not more productive, experience less stress, and demonstrate greater workplace resiliency compared to in-person (e.g., [Sarnosky, Benden, Sansom, Cizmas, & Reagan, 2022](#); [Barrero, Bloom, & Davis, 2021](#); [Owl Labs, 2021](#)).
- A focus on work outputs over work inputs may be an important way to re-imagine the definition of workplace productivity.
  - A distinction should be made between input and output management with respect to supervision, productivity, and overall effectiveness.
    - Input management refers to the monitoring of activities that may go into work (e.g., number of hours at a desk, where work is completed, at what times work is completed). Input management is also associated with the term “theater of productivity” ([Rosalsky, 2022](#)) whereby creating the illusion of working (e.g., making sure indicators of being online always appear active) is prioritized.
    - Output management refers to the supervision of work products and outcomes, often with a focus on quality and impact.
- Fit between job role, employee characteristics, and employee preferences must be considered to ensure feasibility of any workplace arrangement. Not all work types work for all employees.
  - The fit between employee characteristics and job role is important for determining if remote, hybrid, or in-person work is best for an individual and their team. Not every employee and every role may be a good candidate for remote or hybrid work, but in general, knowledge workers, whose roles focus on updating knowledge and interacting with computers, have the highest potential for remote work ([McKinsey, 2020](#)).

## Question 2: Are in-person, remote, and hybrid workplaces equally creative and innovative?

- More research is needed in the areas of creativity and innovation among different types of workplace and employee arrangements.
  - In general, this area is understudied, and research findings do not tell a complete or consistent story. More is needed to fully explore if, how, and under what conditions creativity and innovation can be fostered in remote and hybrid settings.
- Autonomy may be responsible for fostering creativity.
  - Greater autonomy associated with remote work may serve to enhance the creativity of professional employees ([Naotunna & Zhou, 2018](#); [Liu et.al. 2021](#)).
- The ability to structure one's workday when working remotely may promote cognitive flexibility.
  - The daily demands for remote workers' ability to structuring one's work are linked to an enrichment process that includes daily learning and, subsequently, daily cognitive flexibility at home ([Kubicek, et.al., 2022](#)).
- Creative idea generation may be limited in remote settings, but it depends upon how creativity is assessed and under what conditions.
  - For example, in both a lab and field experiment, researchers found that videoconferencing may inhibit the production of creative ideas because individuals are focused on a screen, which leads to a narrower cognitive focus ([Brucks & Levav, 2022](#)).

## Question 3: Are in-person, remote, and hybrid meetings equally engaging and effective?

- In some cases, overall engagement and effectiveness may be greater for remote meetings compared to in-person events.
  - Meetings can be more inclusive for women, people of color, early career scholars, and individuals who have historically faced significant barriers to attending in-person meetings.
  - Individuals may face fewer and/or be able to better protect themselves from the negative aspects of in-person meetings, such as microaggressions or harassment.
  - Virtual meetings allow for easier recording and sharing of content.
- Meeting design, including facilitators, technology, and scheduling, is essential, regardless of format.
  - Meetings that are the most effective and engaging are thoughtfully planned. Attendees at in-person, remote, and hybrid meetings can experience disorganization, technical challenges, and insufficient time for breaks. The best meetings are those that are designed with consideration for the audience needs and meeting goals.
- Hybrid meetings require extra considerations and careful planning.
  - Rules of engagement and strategies for engagement that work well for one arrangement (either in-person or virtual meetings) may not work well in hybrid settings. For example, polling questions using Zoom or Slido work well in virtual settings because most individuals are attending via their own personal computer. However, that same strategy does not work if a group of meeting attendees are gathered together in a common space, sharing a single computer.
- Spontaneous social interactions and networking may be more difficult to replicate in remote and hybrid settings.
  - Careful consideration must be given to fostering and maintaining relationships that might more easily be cultivated and sustained during in-person events.



#### **Question 4: Do in-person, remote, and hybrid workplaces equally allow for building and maintaining teams and relationships?**

- Social connections among employees have always been important, however, their form, medium, and the effort required has evolved for remote and hybrid work environments.
  - Although there is some evidence that telework may impact the quality of relationships between colleagues (e.g., [Wohrman & Ebner, 2021](#)), more research is needed to explore the ways in which remote or hybrid work impacts the establishment and quality of social connections, and how those factors impact job satisfaction and retention.
- Hybrid teams rely heavily on the appropriate communication technologies (e.g., Zoom, Microsoft Outlook, Microsoft Teams) to coordinate their efforts.
  - Effective communication, close coordination, and knowledge sharing are of utmost importance for a hybrid team to achieve work goals.
  - Thoughtful use of time during meetings (e.g., effective planning, including agendas, and breaks).
  - Deliberate interactions and virtual meet ups are necessary to build social connections among co-workers.
- Remote workers and their supervisors may need to be more proactive than in similar face-to-face settings, and recognize that there may be differences in the preferred ways appreciation is conveyed between remote versus on-site workers (e.g., [White, 2018](#)).
  - For example, whereas celebratory lunches and impromptu gatherings may work for on-site employees, remote workers may benefit from more frequent acknowledgement and praise of work achievements that may contribute to feelings of “being seen” despite working from a geographically disparate location.

#### **Question 5: How is employee work-life balance impacted by workplace location (e.g., in-person, hybrid, remote)?**

- Most research suggests that work-life balance is improved with a remote or hybrid work environment, particularly for women and minorities (except for one study showing the opposite).
  - Employees find it easier to balance competing interests of work and home, with the time that used to be spent commuting being free for other activities.
  - In fact, employees who have switched to remote work report higher work-life balance as well as higher engagement with the company.

#### **Question 6: How will the changes in workplace during the pandemic impact how we work in the future?**

- There is substantial evidence to suggest that knowledge-based workplaces have been irrevocably changed.
  - Many workers are happier, healthier, and have indicated that they would either take reduced pay or look for new employment to keep remote and/or hybrid work options.
  - Corollary to that, workers want well-defined reasons to return to the physical workspace.
  - Women and minorities have benefitted from hybrid opportunities, and this can be used as a recruiting and retention tool in the future to increase the pool of employees.
- During the pandemic, productivity in knowledge work remained the same, if not increased.
- Technological advances have allowed for better remote and hybrid work opportunities.

- Working within a remote/hybrid workforce frame allows for a broader and more diverse catchment area for recruitment of new employees.
- There may be new advantages and disadvantages post-pandemic to hybrid workplaces that will need to be assessed. For example, workers that continue to work at home may no longer have the added challenges of the whole family at home with them, but they might now encounter management that does not fully approve of remote or hybrid work.

### **Question 7: What is the impact of hybrid/remote work on the organization, workplace and staff?**

- Organizational support for hybrid/remote work improves workers' well-being and satisfaction at work and reduces attrition.
  - Surveys have found that workers equate hybrid work as a benefit that equates to approximately 7-8% of a pay increase ([Working from Home Research, 2022](#); [Cutter & Dill, 2022](#)).
  - Hybrid work is often viewed as a benefit that enhances job satisfaction over the long-term.
- One study has shown hybrid workers to have equal productivity to fully non-remote counterparts, and improved productivity when compared with those who are fully remote work. This improved productivity can be realized as time savings (e.g., reduced commuting time) or improved work efficiency (e.g., fewer interruptions at work or more conducive work environment at home) ([Makridis & Stewart, 2022](#)).
  - Many hybrid workers still report challenges with hybrid work, in terms of obstacles that make it difficult to optimally perform their work roles. Obstacles may include lack of skills or tools to productively work remotely, physical health issues (of self or family), mental health issues, demands at home for caregiving, or access to transportation to/from work. These differences may be disproportionately felt in certain groups (e.g., younger versus older, workers with children or other caregiving responsibilities) ([McKinsey & Company, 2022](#)).
- Support for a hybrid/remote workplace supports DEIA goals and can bring benefits to an organization if prioritized and conducted thoughtfully.
  - Providing workplace flexibility can allow individuals from various demographic, cultural, socioeconomic, or household backgrounds greater opportunity to participate in, and thrive, in the workplace.
  - Hybrid/remote workplaces can increase the diversity of the workforce, attracting and retaining the best employees regardless of race, age, sex, disability, geographic location, or other characteristics.
  - On the other hand, hybrid work can exacerbate challenges to DEIA efforts that already exist in a workplace, or in which there is the potential to provide undue advantages/disadvantages to in-office versus out-of-office workers.
- Shift to a hybrid/remote workplace can bring savings to organizations in a number of ways ([Estrada, 2022](#)):
  - Organizations could reduce costs associated with keeping and maintaining physical workspaces or reduce other operating costs.
  - Organizations may also realize gains in the form of reduced absenteeism and attrition among workers.

## Question 8: Is in-person work the 'gold standard' for workplace communication, productivity, and culture?

- Good communication and productive meetings rely on good communicators and leaders regardless of communication medium (in-person or via a technology platform).
  - The choice of modality for each social interaction depends on the purpose or goal of the encounter ([Stokoe et al., 2022](#)).
- While in-person work was the norm for a long time, it is not always necessary or the "right" way to achieve workforce goals in all domains of interest.
  - Success, in any configuration, largely depends on the goals you set and how you approach achieving those goals. A hybrid or fully remote work environment also relies on paying attention to many of the same things we do when in-person but being intentional with your actions as not all in-person strategies translate well to a hybrid or fully remote work environment.
- Being in-person does not automatically equate to engagement or connections that are inclusive, satisfactory, productive, or equal ([Stokoe et al., 2022](#)).
  - Introduced in the 1970s, the Social Presence and Media Richness theories indicate that different communication mediums convey varying levels of social presence based on their transmission of verbal and non-verbal cues and ability to facilitate understanding ([Calefato & Lanubile, 2010](#)).
  - In-person communication may intuitively be the richest social presence option, but other mediums also provide rewarding communication experiences. With the development of written correspondence, telephones, smart technological advancements, there are numerous ways to communicate with each other.
- Virtual or hybrid meetings allow for more equitable participation from a broader range of individuals.
  - Videoconferencing technologies allow for hand raising and moderating in ways that exclusively in-person settings do not always allow.
  - Technology platforms enable staff with differing abilities and neurodiversity to fully participate in meetings.
- Many workers are no longer satisfied with a traditional in-person workplace. A Microsoft Worklab study reports that 41% of respondents say they're thinking of switching jobs, and 46% of those say it's because they can now work from home ([Spataro, 2020](#)).
  - Scheduled and ad hoc remote work agreements existed in workplaces prior to the COVID-19 pandemic but the pandemic was a catalyst to prompt broader changes in employee and employer expectations.

# BACKGROUND

## The Changing Workplace Landscape

The COVID-19 pandemic led to a seismic shift in workplace practices. Nearly overnight, workers across the United States (U.S.) and globally were required to begin working from home, many for the first time in their careers. Those individuals whose jobs were classified as “essential” during the pandemic (often those in healthcare, food service, transportation, or other health, safety, or infrastructure functions) continued working in person on job sites despite widespread pandemic-related restrictions and lockdowns ([Rho, Brown, & Fremstad, 2020](#)). Furthermore, many individuals working in industries who had specific job roles that could not be done remotely (but which were not classified as essential) lost their jobs or were furloughed ([Kniffin et al., 2020](#)). Although the widespread availability of COVID-19 vaccines for much of the population has led to the lifting of many pandemic-related restrictions and the re-opening of businesses, the pandemic has fundamentally altered work in the U.S. (and globally). A 2022 survey conducted by Pew Research Center illustrates this shift, finding that a majority (59%) of workers who responded that their jobs could primarily be done from home were in fact, working from home all or most of the time, while 61% of workers who had an established workplace outside of their home chose not to go into their workplace ([Parker, Menasce Horowitz, & Minkin, 2022](#)).

Such survey results indicate that the popularity of working from home, and the ability to do so, is growing. However, it is important to note that not all employees across industries have an equal likelihood of working from home, nor is it feasible for all job types. For example, researchers at the National Bureau of Economic Research analyzed survey data from both small and large businesses and found that during the beginning of the pandemic, those employees with at least college degrees who were working in jobs with higher salaries were more likely to be able to work remotely, and thus, less likely to lose their job or be forced to return to a potentially unsafe work environment ([Bartick, Cullen, Glaser, Luca, Stanton, 2020](#)). To date, many considerations for remote and hybrid work have centered upon the experiences and possibilities for “knowledge workers” (e.g., [Gartner Research, 2021](#); [Howe & Menges, 2021](#))—those whose jobs involve handling or using information, and who may rely primarily on the use of a desktop computer or laptop for conducting their work. For the purposes of this report, we focus on considerations for hybrid work among employees (i.e., knowledge workers) for whom fully remote or hybrid work is a possibility based upon job roles and responsibilities.

Although the pandemic dramatically shifted and accelerated changes in the work environment, remote work among geographically-distributed teams existed long before the pandemic (e.g., [Monroe & Haug, 2021](#); [Allen, Golden & Shockley, 2015](#)). However, prior to the pandemic, telework was primarily viewed as a benefit to which only some employees were eligible, and tended to be ad hoc. As noted by [Kniffin and colleagues](#) (2020, p. 74):

“The challenges for individuals working in this [virtual and hybrid] manner are clear: more people will need to learn to work in ways far different than how previous generations worked.”

This report is intended to provide a high-level overview of some of the current evidence about workplace changes garnered since the beginning of the pandemic, and also suggest future

areas of work needed to inform the research, policies, and practices that will shape the future of work.

## Defining A Hybrid Work Environment

It is believed the term “telecommuting” originated in 1973 from Jack Nilles, an engineer at The National Aeronautics and Space Administration (NASA) ([Allen, Golden & Shockley, 2015](#)). Although “telecommuting” has been in use for over 50 years, a wide range of terms have been used to refer to work completed outside of a traditional office or central worksite, including distributed work, flexible work arrangements, telework, virtual teams, or more recently, remote and hybrid work. Since the 1970s, telecommuting has greatly expanded, both within the federal government and the private sector.

Allen and colleagues (2013, p. 44) defined telecommuting as:

“a work practice that involves members of an organization substituting a portion of their typical work hours (ranging from a few hours per week to nearly full-time) to work away from a central workplace—typically principally from home—using technology to interact with others as needed to conduct work tasks.”

This definition highlights two key elements: working in a location outside of a central workplace and the use of technology to connect with coworkers and complete work tasks. Fully remote or hybrid work environments allow for employees to conduct some or all work tasks outside of a centrally located office or worksite.

The Office of Personnel Management (OPM) has defined a “hybrid workplace” as one that “incorporates a mix of employees who are working in the office and those who are working from other locations,” which underscores the necessity for facilitating job tasks and work events that include both in-person and remote employees and synchronous and asynchronous communications. The OPM has also developed a [Hybrid Work Environment Toolkit](#) that addresses many practical concerns and policies related to hybrid and remote work.

Within NIH, non-emergency employees have available a number of workplace flexibilities, including telework with maximum flexibility (an employee may need to return to the physical workplace for a set number of days within a certain time frame), [local remote](#) (the employee is expected to reside within the local commuting area for the agency), and [fully remote](#) (the employee may reside anywhere within the U.S. and [wages are locality-based](#)).

In addition to definitions and policies, norms regarding hybrid and remote work must also be considered. For example, whether telework is seen as the norm or as an exception in an organization may explain its effects on team wellbeing, processes for completing job tasks, and overall performance (reviewed in [Beauregard, et. al., 2019](#)).

A successful model for hybrid work must rethink the way that a central office is configured, how to ensure healthy and safe remote workspaces; consider the types of digital tools necessary to achieve work goals and support employees; establish healthy rules of engagement; and cultivate a culture that fosters trust and autonomy, fair inclusion of remote workers, and offers individual and collective flexibility ([Grzegorczyk, Mariniello, Nurski, & Schraepen, 2021](#)).

## Exploring The Pitfalls and Potentials of Hybrid Work: The Need for A Nuanced Behavioral and Social Science-Informed Analysis

Although much media attention has been given to remote work and returning to the physical workplace, much of the commentary has been focused on extremes and opposing views, with less attention to science-based considerations or other evidence-based approaches. Initial public discussion of remote work (and working from home, in particular), stemmed from the urgent and emergent need to isolate from others due to the global public health crisis presented by the COVID-19 pandemic. Now, broader conversations about the “Future of Work” must acknowledge the likely permanent impact of the pandemic on workplaces and individual worker perspectives, needs, and wellbeing, as well as how to optimize both fully remote and hybrid work environments for individuals and organizations. There remains a dearth of research focused on domains, processes, and outcomes assessed specifically in these evolving work contexts. Where empirical work has been done, there is often conflicting evidence regarding the benefits, challenges, necessary skills, and best practices.

Navigating the future of work has been identified as a “grand challenge” that is significant, impacts multiple sectors of society, and will force individuals and organizations to “dive into and directly manage unprecedented territory as they alter their workforce in technical, physical and socio-psychological ways not seen before” ([Carnevale & Hatak, 2020, para 1](#)). Despite the aforementioned lack of empirical evidence on how best to navigate this new landscape, there is existing behavioral and social science research to draw upon for establishing key considerations for these new work environments. The behavioral and social sciences community is well-poised to play an important role in characterizing the challenges and strengths of hybrid work, informing change management strategies, and helping develop a research agenda that helps make the workforce diverse, equitable, accessible, inclusive, and effective.

### Key Questions Guiding a Behavioral and Social Science-Informed Approach to Hybrid Work

The future of the hybrid workplace is multidimensional and complex. Among the many considerations that could inform research, policy, and practice this report focuses on the factors most relevant to optimizing and thriving related to both workplaces/organizations and individual employees: (1) factors related to workforce development, and (2) factors related to workplace effectiveness and wellbeing.

For the category of **Workforce Development**, this report applied the following questions to guide literature scans:

1. How might hybrid work impact issues of diversity, equity, accessibility, inclusion, and belonging (DEIAB)?
2. How might hybrid work impact recruitment and retention, and what are factors merit additional considerations?
3. What factors should be considered in creating a psychologically healthy work environment, and how might they be impacted by a hybrid work setting?
4. What factors are related to digital literacy in the workplace and what can be done to increase digital literacy?

5. How might leadership skills be cultivated across employee types and work statuses, and what factors might leaders need to consider when leading across mixed status teams?

For the category of **Workplace Effectiveness & Wellbeing**, this report applied the following questions to guide literature scans:

1. How might employee motivation and engagement be enhanced, and are there differences in remote, in-person, or hybrid settings?
2. How might distractions and disruptions be minimized, particularly in virtual or hybrid settings?
3. What are facilitators or barriers to employees in hybrid work environments successfully fostering collaboration and innovation?
4. How can effective remote and hybrid teams be built and maintained?

These questions are intended to guide a thoughtful and balanced review of the evidence of concepts related to a hybrid work environment, to help determine information that might inform decision-making, and to highlight areas where more research is needed.

## METHODOLOGY

We used multiple research tools, including PubMed, Google Scholar, Google, and Elicit, to inform this analysis. We then examined multiple sources to capture the breadth of literature that highlight key research questions, topics, and findings relevant to the future of hybrid work.

It is important to note that this report does not represent a comprehensive nor systematic literature review of all the key areas relevant to hybrid work. Rather, our approach represents a scan of the relevant literature for the concepts and research that represent the key issues needed to advance and support decision making about hybrid work and highlight areas where more research is needed.

# KEY CONSIDERATION OVERVIEWS

## Workforce Development

### 1. Ensuring Diversity, Equity, Inclusion, Accessibility, & Belonging

#### Background

Diversity, equity, inclusion, accessibility, and belonging (DEIAB) has long been of interest to employers, dating back to such policy actions as President Truman's desegregation of the armed services; President Kennedy's establishment of the Commission on the Status of Women in 1961; the 1963 Equal Pay Act to allow men and women to be paid equally for similar work; the 1964 passage of Title VII of the Civil Rights Act prohibiting discrimination based on race, color, religion, sex, and national origin; the Age Discrimination in Employment Act of 1967 prohibiting age discrimination; and the Americans with Disabilities Act of 1990 requiring employers to offer reasonable accommodations to those employees with disabilities

Despite these long-standing policies that are intended to ensure equitable workplaces for all individuals, current threats of bias, discrimination, and equity continue to be concerns for all organizations on both macro and micro levels. At the same time, additional considerations have risen to the forefront, such as issues that impact the LGBTQIA+ community and persistent structural racism. The COVID-19 pandemic has in many ways altered the way we understand work and how we can address these pervasive concerns—offering opportunities to reset norms, rebalance equity, and ensure all individuals are able to thrive in the workplace (e.g., [Kakati-Shah, 2022](#)).

#### Current Landscape

Although the COVID-19 pandemic is still ongoing in 2022, many employees who initiated remote work during the pandemic are now being asked to return the office some or all the time. However, there is a disparity between employer and employee preferences for returning to the physical workspace. Adding to a survey of over 10,000 knowledge workers conducted by Future Forum (a research consortium developed by the workplace messaging platform Slack), 75% of executives reported wanting to work from the office three to five days per week, while only 34% of employees reported a desire to be in the office that frequently (The [Future Forum, 2021](#)). Additional analyses conducted by researchers at FiveThirtyEight, using the Future Forum data set revealed that when asked how much of their work week they wanted to spend in the workplace or at a client location, 30.4% of White men responded “always” compared to 22.7% of White women, 22.5% of Black women, and only 15.9% of Black men ([Puzio, 2021](#)). Notably, although White men were the most eager to return to the office, fewer than one-third wanted to be back in the physical workspace all the time. Findings from a survey conducted by Microsoft indicate a similar pattern with Black and Latino workers were more likely than Whites to prefer remote work ([Microsoft Work Trend Index, 2021](#)). These differential preferences about time spent in the physical workspace may be attributed to the identity labor (i.e., the cognitive and emotional strain and effort to suppress threat and enhance acceptance rather express their true social identity; [Leigh & Melwani, 2021](#)) that racial and ethnic minority populations often have to perform in traditional workplaces ([Puzio, 2021](#)). Furthermore, hybrid and remote work may boost employee health and wellbeing, particularly racial and ethnic minority populations, women, and additional groups that have faced discrimination in the workplace. For example,



Black men reported feeling more included and less anxious, and parents felt more productive and focused while working at home ([Puzio](#)). Taken together, the results from these surveys suggest that groups with the most power and privilege are most eager to return to the office, which has implications for how decisions are made about returning to the physical workspace and how those decisions may not be concordant with the preferences of most employees and may not work equally well for all employees.

Hybrid workplaces may also help level the playing field and improve workplace effectiveness. Among knowledge workers, hybrid work settings allow for better work-life balance and an increase in feelings of belonging among colleagues ([Barrero, Bloom, & Davis, 2021](#); [Microsoft Work Trend Index, 2021](#)). Furthermore, self-reported productivity has increased with the increase of hybrid workspaces ([Microsoft Work Trend Index](#)). Remote work during the pandemic has led to all employees being more visible, and a remote/hybrid workspace creates a more equal footing for all employees ([Spataro, 2020](#)). There is a sense that promotions are due more to output rather than facetime or taking part in social activities ([Barrero, Bloom, & Davis, 2021](#)). It is also worth noting that diverse leadership representation may cultivate a psychologically healthy workplace, and that women, racial and ethnic minority populations, and LGBTQ+ employees working at organization with diverse senior leaders are more likely to agree their currently workplace is psychologically healthy than those who do not have women or racial and ethnic minority populations in senior leadership ([APA, 2021](#)). However, not all employees experienced an increase in wellbeing when working remotely. For example, in a survey of 3,000 tech workers conducted by the non-profit organization, Project Include, women, transgender and nonbinary people, and Asian, Black, and Latinx and Indigenous people reported experiencing more harassment while working remotely during the pandemic compared to when working in the office prior to the pandemic ([Bond, 2021](#)).

It is important to carefully consider the ways that hybrid work environments and the technology used to support them promote equity and do not exacerbate existing disparities or create new ones. The technologies used to accomplish job tasks may also be the same technologies that can be used to assess potential threats to equity. As highlighted in the Harvard Business Review:

“As companies work to improve diversity, equity and inclusion, technology provides the level playing field most groups want.” Remote options make it harder to engage in office politics. Platforms like Zoom can be recorded, and data analyzed to evaluate DEI in real-time.” ([Frankiewicz & Chamorro-Premuzic, 2020, para. 15](#))

The hybrid workspace has great potential to democratize access to opportunity, as long as workplace technologies are used to build a culture centered on equity and bring employees together in new and meaningful ways. Women and racial and ethnic minority populations are more likely to appreciate the benefits of remote work than are White male colleagues. For example, members of racial and ethnic minority populations aren't asked to work the copy machine regardless of their job position, there may be less pressure to take part in office activities that aren't related to output or performance, and women don't feel guilty for leaving on time to deal with family matters ([Goldberg, 2022](#)).

## 2. Recruiting & Retaining an Excellent Workforce

### Background

Recruiting and retaining a high-quality workforce is a significant challenge for employers. Retention may be particularly relevant in the current labor climate. Dissatisfaction with work conditions have led to what has been termed "Great Resignation," coined by Anthony Klotz in May 2021, when he predicted a sustained mass exodus of workers from the workplace ([Cohen, 2021](#)). Retention is defined as an organization's ability to prevent employee turnover ([Holliday, nd](#)). Retaining employees is essential to an organization's health for several key reasons. Retention may reduce organizational costs by reducing the need to recruit new workers. Improving retention may also increase training efficiencies because fewer workers will need to be onboarded. Productivity may also increase because less time and fewer resources are required for recruitment and onboarding. Retention is also linked to employee morale, which fosters connectedness and wellbeing. Finally, workers that are satisfied are more likely to stay in an organization, more likely to be committed to the workplace, and engaged in creating a healthy workplace culture. It is important to note that retention may be influenced by societal, organization, interpersonal, and individual factors (e.g., [Vassie, Smith, & Leedham, Green, 2020](#)).

### Current Landscape

The challenge of recruiting and retaining excellent employees is not new to the pandemic. However, the pandemic has highlighted tensions in work-life balance, and many employees are now accustomed to a hybrid or fully remote work environment.

Employees' top concern, second only to their health, is to be able to maintain workplace flexibility and asking about remote/hybrid work is now a top question in job interviews ([Frankiewicz & Chamorro-Premuzic, 2020](#)). One of the biggest career questions a person can ask is whether to relocate for a job—the answer to which has potentially huge implications for self, family, and overall wellbeing. Fortunately, technology has "untethered talent from location" and employees do not necessarily have to choose between preferred location to live and preferred organization for which to work ([Frankiewicz & Chamorro-Premuzic, 2020, para. 14](#)), which in turn can greatly expand the talent landscape for an organization (Microsoft Work Trend Index, 2021).

There is evidence to suggest that many workers are no longer satisfied with a traditional in-person workspace. A Microsoft Worklab study reports that 41% of respondents say they're thinking of switching jobs, and 46% of those say it's because they can now work from home ([Spataro, 2020](#)). This suggests that much of the resulting employee turnover might be prevented by allowing for hybrid/remote work. Furthermore, a Jobvite survey indicated 35% of employees have declined or would decline a job offer that required them to work full time in an office or worksite ([Jobvite, 2021](#)). Hybrid and remote employment options may also be perceived more favorably than in-person, even if wages were lower. In a survey of 1,000 employees, 41% of workers indicated a willingness to take a job with a "slightly lower salary" if offered a hybrid option ([Envoy, 2021](#)).

The workplace consequences of the pandemic have not been equitably distributed across the population. For example, women have been disproportionately negatively impacted by the pandemic, leaving jobs at record rates while also shouldering the burden of overseeing children and other family members who were at home. One study looking at how flexitime and telework

might help women maintain their careers after childbirth showed that access to these options resulted in women being less likely to reduce their hours post-birth. These options also increased the likelihood of staying in the workforce ([Chung & van der Horst, 2017](#)). Another study on women in Utah examined the impact of the pandemic on women's' career advancement. In short there was an impact and many women felt like they didn't have the opportunity to pursue alternate work options. The authors advocated for organizations providing better support for their employees through flexible work arrangements, leave policies, and other supports ([Chung & van der Horst, 2017](#)). Research has shown that offering family-friendly policies has benefits for all and increases the diversity, productivity and job satisfaction of employees ([Scribner, Vargas, & Madsen, 2020](#)).

### 3. Creating A Psychologically Healthy Work Environment

#### Background

The World Health Organization ([WHO, 2010, p. 11](#)) defines a healthy workplace as:

“one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and wellbeing of all workers and the sustainability of the workplace by considering the following, based on identified needs:

- Health and safety concerns in the physical work environment;
- Health, safety and wellbeing concerns in the psychosocial work environment; including organization of work and workplace culture;
- Personal health resources in the workplace; and
- Ways of participating in the community to improve the health of workers, their families and other members of the community."

Notably, this definition expands on our current understanding of a healthy work environment to include psychosocial and cultural factors, as well as multiple levels of interaction between workers, the workplace, and the communities in which workers and their families live. Research has shown that the psychosocial factors of a work environment can significantly contribute to employee health and wellbeing, company morale, and job turnover (for a summary, see [American Psychological Association \[APA\], 2022](#)). A 2018 systematic review estimated the societal economic cost of job stress to range from \$221.3 million to \$187 billion ([Hassard et al., 2018](#)).

The COVID-19 pandemic and the shift to more remote and hybrid workplace options has exacerbated some job-related stressors and created new challenges and considerations for addressing factors related to workplace stress and burnout, wellbeing, job satisfaction, and morale. The American Psychological Association found in their 2021 Work and Wellbeing survey that the majority of respondents (59%) reported experiencing negative impacts of work-related stress within the past month, including lack of interest, motivation, or energy, difficulty, focusing, and lack of effort ([APA, 2021](#)). Employees who indicated they typically felt tense or stressed out during the workday were more than three times as likely to report intentions to seek employment elsewhere within the next year, compared with those who reported not feeling stressed or tense during the workday (71% vs. 20%) ([APA, 2021](#)).

## Current Landscape

The following factors related to a psychologically healthy work environment are particularly important to consider in the context of a hybrid work environment:

### Accountability & Trust

A key concern for employers regarding remote and hybrid work is in the lack of visibility that clarifies how, when, and where employees are completing work. A lack of trust and perceived lack of control often leads employers to assume that workers are not completing work or to doubt workers' job-related competence. These concerns existed well before the pandemic (e.g., [Harrington et al., 1999](#)), yet the COVID-19 pandemic has magnified these issues (e.g., [Parker, Knight, & Keller, 2020](#)) and had a negative impact on employees. Parker and colleagues (2020) found that anxiety was greater among individuals who experienced high levels of monitoring (“micromanagement”) from their supervisors. While employers have sought strategies such as the application of software to detect “cyberslacking” and surveil exactly where and how workers are spending their time (e.g., [Aloisi & De Stefano, 2022](#)), unsurprisingly, this “dataveillance” is viewed negatively by employees and may further erode trust (e.g., [Charbonneau & Doberstein, 2020](#); [McParland & Connolly, 2020](#)). Gartner Inc., a technological research and consulting firm, suggests that a focus on employee work products and outcomes would be more effective for a positive employer-employee working relationship than a focus on detailed work processes ([Gartner, 2020](#)). More research is needed to establish the most effective ways to promote and foster trust, establish shared expectations between employees and managers, and establish metrics to determine accountability and productivity.

### Psychological Safety

Psychological safety refers to the perception that a work environment is safe for interpersonal risk-taking, exposing vulnerability, and contributing perspectives without fear of being shamed, blamed, or ignored ([McClintock & Fainstad, 2022](#)). Psychological safety is important at the individual, team, and organizational levels. For example, research has shown psychological safety to be an important predictor of team effectiveness ([Edmondson & Mortensen, 2021](#)). Building a culture of psychological safety in hybrid teams requires thoughtfully and intentionally staying apprised of employee experiences, including addressing traditional onsite workplace incivilities, cyber workplace incivilities (e.g., “cyberbullying,” [Alahmad & Bata, 2021](#)), and tensions or challenges that may arise due to perceived imbalances between remote and on-site employees ([Edmondson & Mortensen, 2021](#)).

### Sense of Purpose

In the [Gartner 2021 Hybrid and Return to Work Survey](#), the majority of respondents agreed that the pandemic made them rethink their job purpose and the role that work should have in their life, altered their perspective on the desirability of their workplace location, and made them want to contribute more to society ([Gartner, 2022](#)). Clearly, the pandemic has shifted the way that employees view work and their relationship with work. Research indicates that recognizing meaning in one's work is linked to greater motivation, engagement, empowerment, career development, job satisfaction, individual performance and personal fulfillment, and to decreased absenteeism and stress ([Rosso, Dekas, & Wrzesniewski, 2010](#)). Acknowledgement and appreciation are also important to feelings of success, job satisfaction, and perspectives about an organization ([Pfister et al., 2020](#)). Remote and on-site workers may have limited insight into the work achievements accomplished in the physical workspace and remotely, respectively. Remote workers and their supervisors may need to be more proactive than in similar face-to-face settings, and recognize that there may be differences in the preferred ways appreciation is

conveyed between remote versus on-site workers (e.g., [White, 2018](#)). For example, whereas celebratory lunches and impromptu gatherings may work for on-site employees, remote workers may benefit from more frequent acknowledgement and praise of work achievements that may contribute to feelings of “being seen” despite working from a geographically disparate location.

### **Social Connection & Inclusion**

The pandemic created or heightened social isolation for many people, raising awareness of the serious consequences of loneliness, such as increased risk of premature mortality (e.g., [Blazer, 2020](#); [Novotney, 2019](#)). Social connections among employees have always been important, however, their form and medium have evolved for remote and hybrid work environments. For example, in a study among clinical and translational scientists and staff during the pandemic, most (62%) indicated that they missed daily face-to-face interactions with colleagues and created informal videoconferencing activities such as coffee breaks, lunches, or book clubs to connect ([Gilmartin et al., 2021](#)). Although there is some evidence that telework may impact the quality of relationships between colleagues (e.g., [Wohrman & Ebner, 2021](#)), more research is needed to explore the ways in which remote or hybrid work impacts the establishment and quality of social connections, and how those factors impact job satisfaction and retention. Additionally, further research could inform strategies for leaders in hybrid workplaces, who have a significant role in promoting connection and inclusion by fostering employee uniqueness (e.g., supporting and empowering employees as individuals, promoting diversity, contributing to employee learning and development), and strengthening change and inclusion at the team and organizational levels ([Korkmaz et al., 2022](#)). In remote and hybrid settings, it is important to create channels for sharing feedback that are equally accessible to all employees and to ensure certain channels for voicing opinions (e.g., in-person and spontaneous “watercooler conversations”) are weighted equally with feedback provided via virtual formats (e.g., planned meetings using video conferencing software). Alternatively, decision-making that occurs during virtual or hybrid settings may allow for more equitable participation from a broader range of individuals because videoconferencing technologies allow for hand raising and moderating in ways that exclusively in-person settings do not always allow.

### **Workplace Control, Autonomy, & Flexibility During Working Time**

According to the APA’s 2021 Work and Wellbeing Survey, 34% of employees reported that flexible hours would help their mental health (APA, 2021); a finding that is consistent past research on the importance of autonomy and self-determination in the workplace ([Gagné & Deci, 2005](#)). Autonomy includes a sense of control over one’s schedule during working hours, control over daily work (such as start and stop time), decisions about when to take vacation or leave, when to take breaks or work overtime, and the ability to pursue an alternative work schedule for increased flexibility. Worktime control and autonomy has been shown to be associated with increased perceptions of work-life balance, health and wellbeing ([Nijp et al., 2012](#), [Puig-Ribera et al., 2015](#)), as well as remote work productivity and engagement ([Galanti et al., 2021](#)). Notably, it is important to examine alignment between worker preference and preferred work type when considering desired autonomy and flexibility. For example, in a Gallup poll conducted in October 2021, 54% of employees working remotely said they would like to divide their time between home and office, while 37% wanted to continue working from home on a full-time basis—suggesting that hybrid approaches will be necessary to understand and accommodate employee preferences. Additionally, ability to have a say in workplace decisions also impacts both job stress and retention. According to the APA 2021 Work and Wellbeing survey, almost half of employees surveyed (48%) said lack of involvement in decisions

contributed to stress in the workplace, and this represented a significant increase from the last time this question was asked in 2019 (48% vs. 39%) ([APA, 2021](#)).

Issues of work-life balance are also closely related to workplace autonomy and flexibility, and the link between work-life balance and wellbeing is well-established (e.g., [Sexton & Adair, 2019](#); [Ernst Kossek, Valcour, & Lirio, 2014](#)). The increase in remote or hybrid work has highlighted the challenges individuals face in establishing boundaries between work activities and personal life (e.g., [Beckel & Fisher, 2022](#)), particularly as technology has enabled workers to be closely connected to work at all times of the day. Supervisors play an important role in supporting employees in establishing healthy and appropriate boundaries between professional and personal life. For example, researchers found that workers with supervisors that are supportive of work-life balance and family commitments reported high job satisfaction and were less likely to leave their jobs ([Hammer et al., 2011](#)).

### Workspace Setup

The physical space and its impact on employee wellbeing have long been topics of interest among those studying occupational health. Prior to the COVID-19 pandemic, there was much debate about the impact of open office plans, with research indicating that these workspaces are associated with decreased satisfaction, productivity, and social relationships and worse health and more stress compared to other types of offices ([James, Delfabbro, & King, 2021](#)). Studies conducted under controlled, experimental conditions found that open office space work was linked with decreased mood and physiological indicators of stress ([Sander et al., 2021](#)). The shift to remote or hybrid work made the debate about open office plans less important, yet brought up new considerations for how employees may create and sustain a comfortable space that is free from distractions, with reliable resources and tools (e.g., laptop, computer peripherals, internet connections, phone and video camera). These issues are compounded by questions of equity that touch on household characteristics (e.g., the ability to have a dedicated office space vs. working from the kitchen table) or sociodemographic characteristics (e.g., economically able to obtain technology if not provided by the workplace).

## 4. Increasing Digital Literacy

### Background

Among knowledge workers, the use of digital technologies to complete job tasks has become essential, and the types of technologies available to support workers in both remote and hybrid workplaces continue to grow and change rapidly. The COVID-19 pandemic highlighted potential and pitfalls of using a variety of technologies to help workers stay connected and achieve goals. As the remote and hybrid workforce continues to grow, and workers are potentially distributed across locations and time zones, the ability to successfully incorporate and navigate multiple technologies to complete work tasks is a critical skill.

**Digital literacy** is a complex and multidimensional term describing the “awareness, attitude, and ability of individuals to appropriately use digital tools and facilities,” and is an umbrella term that encompasses a range of literacies including computer or information and communication technologies (ICT), technological, information, visual, and communication ([Martin & Grudziecki, 2006](#)). Martin and Grudziecki (2006) proposed three levels of digital literacy: 1) **digital competence** (the combination of skills, knowledge, approaches, attitudes, and awareness that are transferrable and enable individuals to achieve their objectives and solve problems); 2)

**digital usage** (the ability to use digital tools to seek, find, and process information and develop a product or solution to address a task or problem that is embedded within a specific contexts such as a professional setting); and 3) **digital transformation** (when digital usage enables innovation and creativity and enables significant change in professional or knowledge domains, at either the individual or organizational levels). [Bergson-Shilcock \(2020\)](#) go further to clarify that “foundational” digital literacy, or the baseline skills that workers require regardless of industry, is different than “occupational” digital literacy, which refers to the digital technology skills necessary to succeed in a particular occupation or industry.

Employee perceptions about the utility and impact of adopting digital technologies in the workplace reveals some ambiguity. Employees are acutely aware they must frequently refine their digital competencies, particularly since technologies change so rapidly (e.g., [Oberländer, Beinicke, & Bipp, 2020](#)). However, there is also research to suggest that confidence in digital technology skills and perceived utility of technology in the workplace may be influenced employee characteristics (e.g., [Synnott et al., 2020](#)), with some workers reporting anxiety about learning and using information systems (e.g., [Kuek & Hakkennes, 2019](#)).

In sum, understanding how to promote technology adoption and improve digital literacy is critical to the success of both workers and organizations. This involves better understanding the modifiable factors associated with technology adoption, the barriers to technology adoption, and the factors that may enhance competent usage.

## Current Landscape

Although there are many considerations relevant to improving digital literacy, the following areas are particularly useful for identifying how to conceptualize and measure the factors that can enhance digital literacy, barriers to digital literacy, and the relationship between digital literacy and engagement in the context of a hybrid work environment:

### Conceptualizing and Assessing the Complexity of Digital Literacy

Digital literacy is a broad concept that includes multiple interrelated domains. In a systematic literature review conducted by [van Laar and colleagues \(2017, para. 2\)](#), the authors identified core categories of digital skills necessary to demonstrate digital literacy, and contextual skills that are connected to these core skills. The seven core skill categories include: technical, information management, communication, collaboration, creativity, critical thinking, and problem solving, and the five contextual categories include: ethical awareness, cultural awareness, flexibility, self-direction, and lifelong learning ([van Laar et al., 2017](#)). [Ng \(2012\)](#) goes further to include cognitive and socio-emotional components. [Tinmaz and colleagues \(2022\)](#) also noted that the concepts of digital literacy, digital competencies, digital skills, and digital thinking are not mutually exclusive. In addition to the challenges in defining digital literacy, the ways in which it is practically assessed among employees is not well-established, nor has it been evaluated in the context of hybrid work environments. A recent review of digital literacy among older adults found that at least eight different validated instruments were used to assess digital literacy, and each focused on slightly different dimensions and skills ([Oh et al., 2021](#)).

### Considering Models of Digital Technology Adoption

Digital literacy cannot be demonstrated without the actual application of digital products in the workplace. A widely-cited model related to the adoption of ICT is the Unified Theory of Acceptance and Use of Technology (UTAUT; [Venkatesh, Morris, Davis, & Davis, 2003](#)). The UTAUT draws on a number of other theories related to behavior change including: Theory of Reasoned Action ([Fishbein & Azjen, 1975](#)); Technology Acceptance Model ([Davis, Bagozzi &](#)

[Warshaw, 1989](#)); Motivational Model (e.g., [Vallerand, 1997](#)); Theory of Planned Behavior (e.g., [Ajzen, 1991](#)); Diffusion of Innovation Theory ([Rogers, 1995](#)); and Social Cognitive Theory (e.g., [Bandura, 1989](#)). UTAUT is a useful model for understanding technology adoption because it considers individual (i.e., gender, age, work experience, self-efficacy), organizational (i.e., performance expectancy of technology), and contextual factors (i.e., social influence, facilitating or impeding conditions of the workplace) that influence behaviors and intentions to use a particular technology.

The Consolidated Framework for Implementation Research (CFIR; [Damschroder et al., 2009](#)) and CFIR Outcomes Addendum ([Damschroder et al., 2022](#)) also offers ways in which technology might best be implemented within an organization. The CFIR framework considers the innovation itself (e.g., its usability and value), characteristics of the user, contextual factors at the inner-setting (e.g., workgroup level), contextual factors at the outer-setting (larger organizational or societal context), the processes used to introduce the innovation, the anticipated implementation outcomes (e.g., adoptability, ability to be implemented, sustainability) actual implementation outcomes (e.g., adoption, implementation, and sustainment), and innovation outcomes (impact on key constituents).

Although individual factors account for a portion of technology adoption, both UTAUT and CFIR highlight the importance of contextual factors and point to ways that employers may significantly influence the conditions that facilitate adoption of technology, such as clearly defining core digital competencies, providing digital literacy trainings, and ensuring all employees have access to the digital tools and resources needed to complete work tasks, collaborate, and innovate. These frameworks offer a starting point for understanding the modifiable factors that employers can address to help workers incorporate new technologies in low-stakes, hybrid settings, gain experience using the technologies on their own and in collaboration with peers, increase confidence in their abilities to use new technologies, and appreciate the benefits of the technologies.

### **Reducing Frustrations & Promoting Digital Agency**

The ability to adaptively respond to and navigate digital challenges is an important component of navigating technologies in the workplace. Yet, individuals often find that digital technologies (particularly new products or services) do not work as expected or may not be as intuitive as originally envisioned. Long before the pandemic, individuals experiencing technological failures characterized themselves as “impatient, discouraged, or confused” ([Pew Research Center, 2008](#)). More recently, in a qualitative study exploring the impact of technological failures, Passonen (2015, pg. 705; as cited in [Hadlington & Scase, 2018](#)) found that participants described technological failures in terms such as “dismay, horror, pain, distress, infuriation, fury, and helplessness.” The ability to adaptively respond to and navigate digital challenges is an important component of navigating technologies in the workplace. Finding and modeling ways to help employees to effectively and productively cope with digital failures and related frustration is essential, and as the authors note, are an important way to “mitigate losses in production as well as enhance organizational resilience” ([Hadlington & Scase, 2018, p. 15](#)). Strategies that promote individuals’ ability to adaptively respond and problem solve technological challenges may also prevent learned helplessness and promote digital agency ([Deloitte, 2019](#)). While further work must be done in hybrid workplaces to inform these outcomes, research related to fostering digital competencies within the domain of professional education may provide foundational knowledge and offer insights on best practices for knowledge and skill acquisition among adult learners (e.g., [Smith, Kahlke, & Judd, 2020](#)).



## Leveraging Digital Enthusiasts to Increase Digital Adoption and Skills

According to Roger's (1995) Diffusion of Innovations Theory, there are five categories of adopters, of which "innovators" (first to try innovations) and "early adopters" (opinion leaders and open to opportunities for change) may be particularly helpful in driving change and technology adoption. There is also some evidence to suggest that coworkers can provide effective support in the context of using technologies (e.g., [Helsper & van Deursen, 2016](#)). When adopting and evaluating strategies for increasing digital literacy in the workplace, using innovators and early adopters as "digital champions" and using a "train-the-trainer" model (e.g., [Nitturi et al., 2021](#); [Yarber et al., 2015](#)) that could also include creating peer communities of digital enthusiasts to help explore and troubleshoot issues ("communities of practice," e.g., [Owen et al., 2018](#)) may offer ways to demonstrate the utility of a new technology, promote collaboration, increase engagement, and ultimately increase digital literacy skills and technology adoption.

## 5. Cultivating Leadership

### Background

Due to the advancement of technology and increasingly flexible working arrangements, organizations are relying heavily on hybrid teams to deliver results. According to a McKinsey & Company survey of 100 executives across different industries and locations, nine out of ten organizations report they will be combining virtual and on-site working in the post-pandemic future of work ([Alexander, Cracknell, De Smet, Langstaff, Mysore, & Ravid, 2021](#)).

A leader oversees team development, performance management and influences others to achieve organizational goals. Leaders set the tone of the environment and serve as a liaison to everyone on the team. They are responsible for building trustworthy relationships and empowering staff to achieve objectives. Lastly, they must coordinate and identify the most appropriate resources needed to solve problems ([Mehtab, Rehman, Ishfaq, & Jamil, 2017](#)). A virtual leader must accomplish all the above within the context of a working environment with limited employee communication and "face to face" time. The sustainability of a hybrid model depends on how leadership equips, enables, and engages their employees. They must blend traditional and new skills to face emerging challenges in a digital world.

### Current Landscape

Over the past five years, MIT Sloan Management Review and Deloitte surveyed 20,000 executives, managers, and analysts to understand the challenges and opportunities of a leader in the digital workplace ([Kane, Phillips, Copulsky, & Andrus, 2019](#)). There are many possible factors, but the following are important to consider in the hybrid work environment:

### Vision and Culture

Leaders must not only create the vision for an organization but also create the culture and the conditions for their teams to thrive ([Kane et al., 2019](#)). They play a central role in team performance because they shape the team's identity and influence how staff deal with obstacles and adjust to challenges ([Garro-Abarca, Palos-Sanchez, & Aguayo-Camacho, 2021](#)). They guide the team's vision and goals and ensure that all tasks have a distinctive purpose aligned with their mission and strategic plan. Clear communication of an organization's vision is critical in a hybrid environment to motivate and connect with both onsite and remote employees. Data has shown that in hybrid and remote workplaces, productivity increases in organizations that

support social connections between employees via project-related discussions, coaching, mentoring, and idea sharing. In a 2021 survey conducted by McKinsey & Company, two-thirds of leaders reported that these types of positive employee “microtransactions” have helped increase productivity during the pandemic compared to employees identified as production “stragglers” ([Alexander et al., 2021](#)).

### **Building Trust**

The geographic location and cultural distance that characterizes hybrid working environments can also threaten a team’s ability to build trust and maintain cohesion ([Cortellazzo, Bruni, & Zampieri, 2019](#)). Team leaders who engage in early and meaningful interpersonal development, facilitate meetings with optimism, provide meeting agendas, and promote proactivity, will cultivate higher degrees of trust between employees ([Catinella & Esparza, 2021](#)). In lieu of in-person interaction, leaders in a hybrid workplace must effectively develop trust in their teams in terms of communication, self-management of time, motivation, and resourcefulness to produce results ([Flood, 2019](#)).

### **Navigating Evolving Workplace Technologies**

The challenge of the digital transformation of the workplace is not the availability of technologies, but also choosing the correct technologies and having the skills to use them properly. A leader must stay abreast of developments in technology and decipher how they can bring value or represent a threat to an organization. A digitally literate leader, who understands technology at a high level, can use resources effectively and make sound decisions in an uncertain environment ([Kane et al., 2019](#)).

### **Adaptability**

Leaders must acknowledge and understand that work environments are changing and that individual employee needs are often distinct. The adaptation and adoption of new methods of communication, building teams and trust virtually, and inspiring change are necessary in a hybrid environment ([Contreras, Baykal, & Abid, 2020](#)). Leaders must be innovative, foresee opportunities, and be able to adapt to change while continuing to guide their vision for the organization.

## **Workplace Effectiveness & Wellbeing**

### **1. Enhancing Motivation & Engagement**

#### **Background**

Employee engagement is a multidimensional construct defined as cognitive, intellectual, and emotional commitment to an organization and the workplace ([Osbourne & Hammoud, 2017](#)). Organizational research typically describes engagement as reflective of the involvement and enthusiasm of individuals in a workplace. The concepts of motivation and engagement at work have been of interest in both professional and academic arenas for nearly four decades. The Self-Determination Theory is one predominant framework for understanding employee motivation and associated behaviors. This framework conceptualizes motivation as two facets— intrinsic motivation (i.e., natural tendencies that spur an activity in healthy and self-interested ways) and extrinsic motivation (i.e., influencing an activity for reasons not predominated by self-interest or enjoyment) ([Meyer & Gagné, 2008](#)). Engagement is thought to be a key driver of

intrinsic motivation, employee behavior, and job satisfaction. Engagement is also associated with organizational productivity, recruitment, and retention patterns.

The [United States Department of Labor in 2015](#) has noted employee engagement (or absence of engagement) to be a considerable challenge for long-term job satisfaction and employment. One study estimated a loss of \$350 billion annually for the private sector associated with employee disengagement ([Osbourne & Hammoud, 2017](#)). A second study found that disengagement, reported by nearly 30% of workers, negatively impacted other employees in the same workplace ([Bersin, 2014](#)). The shift during the COVID-19 pandemic to remote or hybrid workplaces has presented new challenges in how employee engagement and motivation may be conceptualized and nurtured. Unsurprisingly over 40% of organizations are “very interested” in employee engagement as a high priority for effective remote or hybrid working environments ([Roe, 2021](#)).

### Current Landscape

Although the body of research regarding employee engagement and motivation in remote or hybrid workplaces is quickly evolving, much of the past research focused on primarily in-person workplaces may still be applicable for understanding these issues. Employee engagement has been shown to be associated with enhanced psychological and physical wellbeing, better task performance, and greater job satisfaction ([Bersin, 2014](#)). This may be particularly poignant during the COVID-19 pandemic, when employees reported heightened stress, anxiety, and hopelessness ([Roe, 2021](#)). Even prior to the pandemic, surveys showed that flexibility and work-life balance are highly valuable and in fact, those organizations that had shifted from in-person to remote work reported higher employee engagement ([WorkBuzz, 2021](#)). For example, most employees in an office setting would prefer to work from home and/or off-site at least some of the time, to promote more positive wellbeing and work efficiency ([Aczel et al., 2021](#)). Other key drivers of engagement include connections with colleagues (i.e., a sense of belonging and community), individual motivation (often bolstered through rewards and recognition, personal goal-setting, or meaningful work), and employee empowerment and autonomy ([Baker & Chan-Ahuja, 2022](#); [Osbourne & Hammoud, 2017](#)). One study noted that strong relationships and communication between leaders and employees lead to higher reported employee engagement. There are also many positive organizational outcomes associated with initiatives aimed at employee engagement, such as greater productivity, decreased work errors, less workplace attrition (and higher retention) ([Osbourne & Hammoud, 2017](#); [Macey & Schneider, 2008](#)).

## 2. Minimizing Distractions & Disruptions

### Background

The staffing model at many organizations has shifted throughout the COVID-19 pandemic, from primarily in-person workplaces marked by periodic telework, to workplaces with remote or hybrid organizational structures with reduced in-person time in most extramural components. An evolving technological landscape, enhanced connectivity, and instant access to information have made such an evolution possible. Yet despite the benefits of this new work landscape, the more widespread and accepted remote or hybrid work options may be linked with increased incidence of multitasking behaviors, distractions, and interruptions during the workday.

“Multitasking” refers to the behavior of conducting multiple cognitive tasks, either concurrently (dual-tasking) or in rapid succession (task switching) ([Ward et al., 2019](#)). Experiencing distractions or interruptions/disruptions during work activities is closely associated with multitasking behaviors. Distractions or interruptions related to emails, ad hoc conversations with colleagues (both in-person or via chat), or time spent on a personal digital device have been present in the modern office setting even before the COVID-19 pandemic. However, the shift to remote or hybrid work has made these issues (dubbed by some as “technostress challenges” or “chains of distraction”) more acute ([Cao et al., 2021](#); [Stich, Tarafdar, & Cooper, 2018](#); ). For example, one study conducted prior to the COVID-19 pandemic found that 40% of surveyed respondents reported experiencing ten or more interruptions per workday, with 15% reporting twenty or more interruptions per day ([Leroy & Glomb, 2018](#)). In addition, remote meetings that are commonly executed through video conferencing technology have become a more frequent fixture in hybrid or remote workplaces, leading to what both experts and lay individuals refer to as “Zoom fatigue” (e.g., [Bailenson, 2021](#); [Fauville et al., 2021](#)). One large-scale survey found that multi-tasking during remote meetings is “ubiquitous,” with over 30% of workers reportedly engaging in either email or file multitasking. A second study of work fragmentation found that workers average little time within so-called “work spheres” (i.e., higher level units of work comprised of smaller subcomponent tasks) on an uninterrupted basis, and that more time spent within a single “work spheres” was associated with more frequent and lengthy interruptions. ([The Economist, 2020](#); [Mark, Gonzalez, & Harris, 2005](#)). Studies conducted of in-person work settings reported that the most common sources of workplace distraction included interruptions from colleagues (either face-to-face or via chat programs), checking or responding to work-related emails, environmental distractions in the work setting, mental fatigue (i.e., “a wandering mind”), or physical discomfort with the workspace ([The Economist, 2020](#)). Despite this past work, there remains a dearth of research that has examined the increasingly common remote or hybrid work settings.

### Current Landscape

Studies in neuropsychology have shown that our brains multitask poorly when trying to accomplish higher-order cognitive functions ([Ward et al., 2019](#)). When multitasking practices are attempted during these periods, there is a significant association with losses of productivity, which continue to decrease with increasing task complexity. Additional negative impacts, in the form of decreased accuracy in task completion and suppressed response times were shown to occur with both task-switching and dual-tasking activities. Even worse, research has shown that over time, multitasking may essentially rewire our brain circuitry to result in less focus and work efficiency over time ([Sörqvist et al., 2016](#)).

Much of the applied research around multitasking and workplace distractions has been conducted in clinical settings or when examining healthcare delivery. Studies have shown interruptions in these settings to be significantly associated with lower quality of care, and workplace errors ([Westbrook, 2014](#)). Applied research (often employing qualitative or mixed-methods approaches) has also been conducted in the realm of occupational health and industrial and organizational psychology, and has shown multitasking and engaging with other distractions in the workplace to have a deleterious impact on both individuals and the organization. Surveyed individuals reported reduced productivity, increased mental fatigue, and increased stress and anxiety experienced while working. One economic study estimated an average of 581 lost working hours per person annually, and lost per person productivity of

\$34,448, all due to distraction-related lost focus and multitasking behaviors ([The Economist, 2020](#)).

Among the few studies to examine this topic in remote or hybrid workplaces is one large-scale, multi-methods study of employees at Microsoft ([Leroy & Glomb, 2018](#)). Researchers found that multitasking among surveyed workers is often associated with large meetings, longer duration meetings, morning meetings (compared to afternoon), recurring meetings (compared to ad hoc), and meetings viewed as irrelevant or in which they have self-deemed themselves to be non-emergency. This same study also reported several factors associated with lost focus/attention, distractions, and multitasking at work, such as the reported need to complete individual work (particularly when scheduled for back-to-back virtual meetings; a phenomenon that is more common in remote or hybrid workplaces), succumbing to external distractions (e.g., personal devices or home distractions), and anxiety relief (low cognitive effort was associated with anxiety over the COVID-19 pandemic).

### 3. Fostering Collaboration & Innovation

#### Background

Effective internal communication is an integral part of the workplace that is necessary for organizational success, which involves the transfer of professional information and knowledge as well the stimulation and motivation of employees to meet the goals of both individual employees and the organization. Additionally, effective communication strategies have been found to enhance employee job satisfaction, efficiency, and productivity. Teleworking and hybrid work environments have impacted how workers communicate and has created both challenges and opportunities. Recent technological advances in video, virtual reality teleconferencing, and telephone communication are just some of the tools that can help improve efficiency and effectiveness of team collaboration and communication.

#### Current Landscape

##### Positive Communication and Teamwork

Considering the importance of communication in the workplace, it is necessary to understand how to establish and implement factors that promote positive and effective communication in both fully remote and hybrid settings. For example, in a review of teleworking literature prior to the pandemic, [Allen and colleagues \(2015\)](#) highlighted research demonstrating the potential for social and professional isolation due to a lack of in-person interactions among teleworkers. Communication-enhancing technologies, such as audio or video conferencing, email, and other web meeting software, have been offered as a solution to decrease the negative impacts of professional isolation on job performance and job satisfaction (reviewed in [Beauregard, et. al., 2019](#)) long before the start of the pandemic. However, the pandemic has greatly expanded the types and ways that internet and communication technologies can enhance communication and collaboration. In a recent literature review, [Ma \(2021\)](#) identified a number of key insights for how organizations could improve communication via technology-mediated mechanisms. First, technology-based interaction can make communication more efficient and convenient. Second, video communication may help realize “face-to-face” communication, since interpersonal interactions in this format tend to be more than twice as successful as those conducted via email. Leaders can also effectively use videoconferencing regularly to schedule “social time” during meetings to improve or enhance team culture. Third, novel immersive technologies, such as virtual reality teleconferencing, may be helpful in creating meetings and modes of

communication that better replicate the interpersonal and contextual dynamics of in-person meetings and conversations. This interaction between interpersonal dynamics and communication technologies may be particularly important. Recent research suggests that social exchange processes play a critical role in understanding relationships between teleworking and job outcomes, with software quality moderating the strength of these relationships ([Kuruzovich et. al., 2021](#)). Communication is critical to broad organizational goals, including the creation of social capital, and workplace technologies offer a way to ensure that a hybrid or remote work environment can effectively achieve organizational goals that require interpersonal interactions.

Communication challenges, such as reduced communication and quality of communication, may also impact the transfer of knowledge within an organization, particularly between remote and in-person workers (reviewed in [Beauregard, et. al., 2019](#)). When examining communication in the workplace, it is important to consider the primary job roles and tasks. Research has shown that in hybrid work environments, high levels of “task interdependence” (the degree to which organizational members rely on one another to effectively perform their tasks; [Morgeson & Humphrey, 2006](#)), are correlated with lower productivity of teams with remote workers ([Allen, Golden, & Shockley, 2015](#)). This may be due to reduced communication, knowledge sharing, and fewer interactions between remote and office-based coworkers. However, for less interdependent tasks (e.g., sequential, or pooled tasks), in which performance is the sum of individual members’ performance, remote work is not associated with negative outcomes for teamwork. In order to combat this phenomenon and enhance team performance, prior research suggests that employees with fewer face-to-face interactions proactively make themselves available to meet and interact with their colleagues (reviewed in [Beauregard, et. al., 2019](#)).

### **Boosting Creativity, Innovation, and Cognitive Flexibility**

An additional consideration for any organization is how fully remote or hybrid teams can foster creativity and innovation. Research has indicated that remote and hybrid work environments can promote creativity and innovation of employees. The greater autonomy associated with remote work may serve to enhance the creativity of professional employees ([Naotunna S. Zhou E., 2018](#); [Liu et.al. 2021](#)). Additionally, the daily demands for remote workers’ ability to structuring one’s work are linked to an enrichment process that includes daily learning and, subsequently, daily cognitive flexibility at home ([Kubicek, et.al., 2022](#)). However, research findings in this area have not been consistent. For example, in both a lab and field experiment, researchers found that videoconferencing may inhibit the production of creative ideas because individuals are focused on a screen, which leads to a narrower cognitive focus ([Brucks & Levav, 2022](#)). Thus, more basic behavioral research is needed to better characterize the barriers and facilitators of creative thinking and idea generation and cognitive flexibility, particularly among teams that may be split between in-person and remote locations.

## **4. Building & Maintaining Effective Teams**

### **Background**

The recent proliferation of remote and hybrid work environments has brought up questions on how to build and effectively lead virtual teams. Much of the currently available strategies for team building focus on teams in which workers are co-located or primarily on-site. There are several emerging benefits to building and maintaining hybrid teams with geographically-dispersed subject matter expertise, including reduced costs of travel, relocation, overhead, and

hiring highly-skilled staff regardless of location ([Dulebohn & Hoch, 2017](#)). Team organization is a key aspect to overcoming potential challenges. Remote or hybrid teams that are well-organized (e.g., clear communication from leadership, shared expectations, and positive work culture) promote job satisfaction, more workplace flexibilities, and utilize technology platforms that allow for increased team engagement ([Catinella & Esparza, 2021](#)). In contrast, teams that are not well-organized face challenges in effective communication, technological difficulties, lower worker engagement, reduced trust among team members, and social isolation ([Dulebohn & Hoch, 2017](#)). Teamwork and interpersonal skills contribute to an organizational dynamic where collaborative relationships are built, and effective communication occurs. There is some overlap in the concepts that apply to both individual psychological wellbeing at work and effective teams, but those concepts may manifest differently within teams and organizational settings.

### **Current Landscape**

Leaders who are the most effective also build trustworthy relationships with their employees ([Ford, Piccolo, & Ford, 2017](#)). Every employee receives individual and collective cues that factor into their determination if an organization, leader, or team members can be trusted. Teams with high levels of trust have proved to be more proactive, focused, optimistic, and productive ([Ford et al., 2017](#)). According to a survey by LiveCareer, one-third of remote workers (n=1,022) said that communication with their manager has improved during the COVID-19 pandemic. Moreover, almost half (46%) of Americans are more aware of what is expected of them as they work remotely. Videoconferencing technology has assisted managers to continue to hold 1:1 meetings with staff and communicate their expectations ([Woolf, 2021](#)).

When designing hybrid work environments, managers need to address individual human concerns over potentially outdated institutional norms. New flexible working arrangements should not prioritize replicating in-person practices but rather reimagine workflows to increase teamwork and workload efficiency ([Gratton, 2021](#)). All team members must be afforded the same amount of flexibility to maintain a climate of trust, inclusivity, and fairness. Previous research has shown that unfairness in the workplace can diminish productivity, lessen trust, intensify burnout, decrease collaboration, and reduce retention ([Gratton, 2021](#)).

Hybrid teams rely heavily on communication technologies (e.g., Zoom, Microsoft Outlook, Microsoft Teams) to coordinate their efforts. Effective communication, close coordination, and knowledge sharing are of utmost importance for a hybrid team to achieve work goals. Team members are more likely to be engaged when they communicate effectively with each other and find the project rewarding ([Garro-Abarca, Palos-Sanchez, & Aguayo-Camacho, 2021](#)).

# FUTURE RESEARCH DIRECTIONS

The COVID-19 pandemic has reframed the way that work is conducted worldwide, as many knowledge worker-based workplaces shifted to fully remote or hybrid seemingly overnight. As demonstrated, hybrid workplaces that employ a mix of remote and in-person workers face a unique set of challenges and also a plethora of opportunities for individuals and organizations to thrive. While past research on various work styles, organizational cultures, and occupational environments has provided a solid base of foundational knowledge, there remains a dearth of research focused on either hybrid work environments or the unique needs of today's modern and diverse workforce.

## Workforce Development

### Ensuring Diversity, Equity, Inclusion, Accessibility, & Belonging

Organizations should systematically explore how hybrid and remote work options impact workers of all genders, races, ethnicities, and abilities, both directly and indirectly. Historically, there has been an assumption that an in-person workplace is the gold standard for ensuring diversity, equity, inclusion, accessibility, and belonging, but research is needed to see what best achieves the goals for a broad range of workers and work contexts. More research is needed to understand the factors that moderate the success and preference for hybrid and remote work options. These factors might include individual and family environments, job satisfaction, feelings of inclusion or autonomy in the workplace, and office culture. Research is needed on how to incorporate other strategies to improve DEIAB within hybrid and remote work environments.

### Recruiting & Retaining an Excellent Workforce

Recruitment and retention of employees is a core challenge of organizations. With more workers wanting to work from home at least part of the time, employers will need to rethink how to make hybrid options available fairly and equitably. Research should be done on how best to transition an organization from fully in-person to hybrid or remote. Additionally, research is needed on how to incorporate more traditional retention strategies (e.g., positive onboarding experiences, opportunities for professional development, positive work culture) within hybrid and remote work environments.

### Creating a Psychologically Healthy Work Environment

The creation and cultivation of psychologically healthy work environments cannot proceed without a fundamental understanding the multidimensional factors that achieve this goal. Example factors include, but are not limited to accountability and trust, involvement, psychological safety, sense of purpose, social connection and inclusion, workplace control, autonomy, flexibility during working time, decision-making, and workspace setup are interrelated and how they impact on-site, remote, and/or hybrid workers. This basic and mechanistic research can inform the development of evidence-based strategies that promote positive outcomes in each of these factors and determine for whom and under what conditions these strategies are most effective.

Directly assessing employees and their perceptions about the psychological health of their workplace, evaluating strategies for promoting a psychologically environment, and establishing



associations and causal relationships between factors related to a psychologically healthy hybrid work environment are important next steps.

### **Increasing Digital Literacy**

The success of future hybrid work environments is contingent on the development of skills and competencies to demonstrate digital literacy in the workplace. Research and practice have established that basic digital literacy skills are a necessary requirement for most remote or hybrid employees in the 21<sup>st</sup> century. In fact, the private sector has coined the term “digital upskilling” to reflect an increasing need to continuously and rapidly refine digital skills, both for employees to stay engaged and competitive, and for employers to boost the overall skills of their workforce ([Taylor, 2020](#)). Despite the speed with which digital technologies are evolving, more research is needed to understand employee attitudes and beliefs related to adoption and gained proficiency of technology in the workplace, as well as how effective technology may be in advancing valued aspects of an organization’s workplace (e.g., team building, communication, knowledge sharing, customer service). Furthermore, research is needed to enhance understanding of the barriers and facilitators to cultivating digital competencies necessary to be successful in the workplace. Practically, validated and refined instruments should be created to assess digital literacy needs and results among the workforce. Trainings and strategies that target the determinants of divides in digital literacy (e.g., [Scheerder, van Deursen, & van Dijk, 2017](#); [Gagnon et al., 2010](#)) are needed but should be developed via employee-centered participatory design methods to help define the problems, foster digital inclusion, and ensure that solutions are sensitive to the needs of the target populations (e.g., [Stratton et al., 2020](#)).

### **Cultivating Leadership**

Organizations that can thrive in hybrid working environments must support and train managers on leadership for success in both remote, hybrid, and in-person teams. This includes soft skills (e.g., giving and receiving feedback), reworking processes originally developed for in-person work, and reframing assumptions about what defines good workplace management ([Alexander et al., 2021](#)). More research is needed to understand and foster digital leadership (particularly for hybrid teams) and its components. In addition, research is needed to investigate how organizational boundaries and hierarchies within work environments impact motivation, productivity, and team cohesion—building on past work showing successful hybrid work environments favor more flat and decentralized hierarchical structures ([Contreras et al., 2020](#)).

## **Workplace Effectiveness & Wellbeing**

### **Enhancing Motivation & Engagement**

The topic of employee engagement and motivation is both multifaceted and highly nuanced, yet there are several clear takeaways and areas in which further research may yield a meaningful contribution. It is clear that highly engaged employees are productive and committed to make meaningful contributions to an organization. It is also important to understand that a single organizational effort or initiative is unlikely to promote employee engagement. For example, simply perceiving the remote nature of work as a benefit was not enough for employees to report greater engagement until this “benefit” was coupled with greater self-motivation through rewards or incentives ([Aczel et al., 2021](#); [Panteli & Yalabik, 2019](#)). These employee rewards could include cash awards, small-denomination gift cards for products or services, as well as more creative options such as donations to a nonprofit organization of the employee’s choice,

useful “swag” from the organization, gifted experiences, or rewards that may be used on various digital platforms. Meeting employees’ intrinsic and extrinsic motivations are essential for fostering a more meaningful work environment. A multipronged strategy aimed at various aspects of motivation and engagement may be most beneficial. Future research could examine what types and combinations of motivation and engagement enhancing strategies would be most optimal for various workplaces and workers.

Organizations interested in bolstering and better supporting employee engagement in a hybrid workplace could also benefit from identifying the most meaningful and impactful core principles of engagement, as well as optimal strategies for achieving these principles (Roe, 2021). Strategies that have been linked with strong employee engagement include: a strong and supportive work culture in which employees have a shared understanding of organizational goals and values; building trust and defining expectations; support for inclusion, social connection, and mental health; support for leadership on how best to support and champion employee engagement and resiliency; or investment in technology to facilitate cohesiveness and collaboration among all.

Organizations and leadership would benefit from implementing or enhancing open lines of communication with employees to benchmark and regularly monitor employee wellbeing and engagement. Maintaining communication and visibility to ensure employees feel ‘seen and heard’ are two aspects linked with maintaining engagement success in a hybrid workplace. While organization-wide surveys are traditionally conducted on an annual or bi-annual basis, several “high-performing” organizations reporting strong employee engagement have employed strategies to collect real-time feedback. For example, pulse surveys can facilitate real-time feedback loops between leadership and employees and are more nimble than traditional cross-sectional surveys, which may be more cumbersome to conduct and analyze. Such surveys may be an important tool for benchmarking the wellbeing and engagement of remote and hybrid employees and identifying opportunities for growth or improvement. Using strong and validated measures associated with engagement and morale are important for facilitating regular information flow and analysis, yet there is currently a lack of consensus on the best method and measures to use when assessing these areas. More research is needed to develop and validate these measures for various workplace contexts.

### **Minimizing Distractions & Disruptions**

There is a dearth of research regarding multitasking, productivity, work disruptions, and attention/focus that has been conducted in the context of remote or hybrid workplaces. Although technology to facilitate communication has been used for some time, the explosion of virtual conferencing and other technologies associated with the advent of the COVID-19 pandemic necessitates continued work to understand the cognitive and social demands and consequences. Some research has shown that the flow and pattern of interruptions have a differential impact on attention and job performance. Future research should explore strategies for maintaining or enhancing performance in more “interruptive” work environments. Similarly, it may not be possible for some individuals to completely compartmentalize their job responsibilities due to the nature of their role; in other words, it would be impossible for them to eliminate multi-tasking completely from their everyday work. Future research exploring differential cognitive effects associated with “multitasking continuums” may illuminate the consequences of adopting various multitasking strategies and inform more optimal ways that some degree of multitasking may be achieved to benefit both the individual and the organization. Finally, some interventions in private workplaces have begun to incorporate

productivity tools, such as software applications, certain technological restrictions, and optimization of existing digital tools to promote focus, alternative forms of engagement and communication for workers. Other interventions might include enhanced communication and guidance around wellness (e.g., support for rest breaks or focus blocks), prioritization of tasks, or specific recognition for employee attendance at particularly important meetings or following the completion of a task.

### **Fostering Collaboration & Innovation**

Although numerous organizations have permanently adopted hybrid or fully remote workplace models, there is still some concern that team dynamics suffer when people do not see each other physically. In general, recent research has indicated that a mix of face-to-face and virtual time may work best to combat these challenges. Additionally, proper training and provision of necessary technology (e.g., smartphones, videoconferencing applications, workplace collaboration software) are essential for maintaining team dynamics and fostering creativity and innovation. Additionally, research is needed to explore if and how the subtle mentoring that takes place between senior and junior and peer to peer colleagues are impacted by fully remote or combination of virtual and in-person interactions. In sum, more research is needed to both understand the nature of collaboration and innovation in hybrid settings and develop strategies that enhance them.

### **Building & Maintaining Effective Teams**

Future research should focus on the methods and behaviors that leaders can use to build trust in their virtual teams. The specific digital communication tools that can help support this process also should be investigated to determine the effect of certain characteristics of a communication tool have on the process of building trust ([Cortellazzo, Bruni, & Zampieri, 2019](#)).

## **Key Takeaways**

Although this report does not represent a systematic and exhaustive review of the literature, several key takeaways emerged for informing a research agenda that can drive evidence-based strategies, policies and practices needed to cultivate a thriving hybrid work environment.

- 1. A comprehensive conceptual model representing hybrid workforce development and workplace effectiveness and wellbeing among knowledge workers should be created.** Although there is robust behavioral and social science research literature focused on the variety of factors related to employee and organizational effectiveness and wellbeing, this research may benefit from integration within a single, comprehensive framework. The model of telework, worker health, and wellbeing presented by [Beckel and Fisher \(2022\)](#) offers a useful starting point but does not contain all the inputs and outcomes needed to fully characterize a modern (i.e., post-pandemic) hybrid work environment and a workforce that remains characteristically changed by the pandemic. A comprehensive conceptual model must depict how these factors are interrelated, as well as the multilevel interactions between employees, teams, leadership, and organizations, that together impact workforce development and workplace effectiveness and wellbeing. Finally, a comprehensive and iterative framework will be crucial for not only synthesizing the current body of research, but also pointing to gaps in knowledge that may be explored in the future.

2. **Additional research focused on the hybrid work environment in a modern, post-pandemic workforce is needed.** While prior work has been done around telework that was largely conducted on an ad hoc or episodic basis, less is known about telework as a more routine and widespread approach to work as it has evolved to be during the pandemic. The pandemic caused a profound shift in employee perspectives about work, perceptions of each other, and expectations for organizations. Meanwhile, organizational policies and practices changed in a mostly reactive way that may not have been fully grounded in the evidence. More research is needed to disentangle the unique structural and behavioral and social science dimensions that impact the ability of employers and organizations to thrive in a more pervasive hybrid work environment, where work-related events, tasks, and teams will likely include some combination of on-site and remote employees. Considerations include, but are not limited to, fostering connection and inclusivity, contributing to the health and wellbeing of a geographically dispersed team, effective team building in a hybrid space, building and maintaining digital literacy in a work environment dependent on technological adoptions, fostering communication and a shared understanding of expectations, and revisiting organizational missions to ensure they are salient and purposeful.
3. **Exploration of links between hybrid or remote employment opportunities and recruitment, retention, and DEIAB priorities.** A number of industry-sponsored employee surveys suggest that remote and hybrid opportunities are crucial to recruiting and retaining a diverse and talented workforce, particularly in a post-pandemic work environment. However, more research is needed to better demonstrate if, how, and for whom hybrid or remote roles are preferred, and how overall diversity, equity, inclusivity, accessibility, and sense of belonging are achieved and maintained in these roles. Metrics related to DEIAB and workforce recruitment and retention should be established and tracked longitudinally, and the data should be regularly analyzed and publicly available.
4. **Key behavioral and social science dimensions related to workforce development and workplace effectiveness and wellbeing should be clearly operationalized and measured.** In order to begin addressing key questions related to behavioral and social science constructs that are associated with developing or bolstering hybrid work environments, those constructs must be clearly operationalized for the diverse populations and challenges inherent to these work environments. For example, a construct such as “sense of purpose” may seem intuitive, yet its meaning within the context of work is not uniformly understood across industries or individual workers. Additionally, validated measures are essential to be able to reliably collect and harmonize data across individuals, teams, and organizations. It is also important to capture both quantitative and qualitative data that can paint a complete and nuanced picture of the multiple levels of factors and perspectives at play.
5. **Barriers and facilitators of effective hybrid employees, teams, and organizations should be identified, and their relative impacts measured.** Past research has reported on barriers and facilitators of success in various work environments, providing an important foundation for future research. Despite this body of evidence, more research is needed to identify the barriers and challenges unique to hybrid work environments that have proliferated during the pandemic. As the norms about hybrid and remote work have dramatically shifted, so too have the attitudes, beliefs, and behaviors that impede or facilitate success in the workplace. It is also important to explore how these barriers and

facilitators may differ in strength and impact based upon individual, organizational, and structural factors. Understanding the strength of these factors can inform the development of strategies that may highlight some of the more influential factors for organizational success. Both quantitative and qualitative methodologies are needed to explore this topic to develop the most impactful strategies for reducing barriers and promoting facilitators.

The COVID-19 pandemic presented a window of opportunity within which researchers have begun to investigate factors and outcomes related to a changed workforce and shifting workplace policies and practices that favor remote and/or hybrid work. However, much of this research has been understandably reactive—dictated by, and in response to, rapidly-changing pandemic conditions with less emphasis conceptual understanding of hybrid work (and work-related factors) at multiple levels, nor on addressing existing knowledge gaps. There is a need to develop current and salient research questions and plans to advance the underpinning what the future of work looks like. Behavioral and social science research is critical for cultivating an effective, healthy, innovative, and diverse workforce that can navigate novel challenges and adapt to evolving workplace norms and needs. Finally, this research is crucial for informing organizational policies and practices that may support a thriving workforce and successfully fulfill missions and strategic plans.

# ADDITIONAL RESOURCES

- [Harvard Business Review - 11 Trends That Will Shape Work in 2022 and Beyond](#)
- [Forbes – Future of Work: The 5 Biggest Workplace Trends in 2022](#)
- [PwC – Workforce of the future: The competing forces shaping 2030](#)
- [Deloitte – Future of work \(collection of resources\)](#)
- [Inc – The Future of Work Is Now – 6 Trends You Need to Know](#)
- [Harvard Business Review - Tips to avoid burnout when working from home](#)
- [Inc - Google CEO says if your return to office plan doesn't include these 3 things you're doing it wrong](#)
- [Harvard Business Review - 7 Strategies to Improve Your Employees' Health and Well-Being](#)
- [UC Davis Wellbeing Toolkit](#)
- [5 Traits of a Successful Hybrid Work Environment](#)
- [The Digital Skills for Tomorrow's Working World](#)
- [Scaling digital solutions for wicked problems: Ecosystem versatility](#)
- [Digital literacy and informal learning environments: An introduction](#)

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