



What Remotely Matters?

Understanding Individual, Team, and Organizational Factors in Remote Work at Scale



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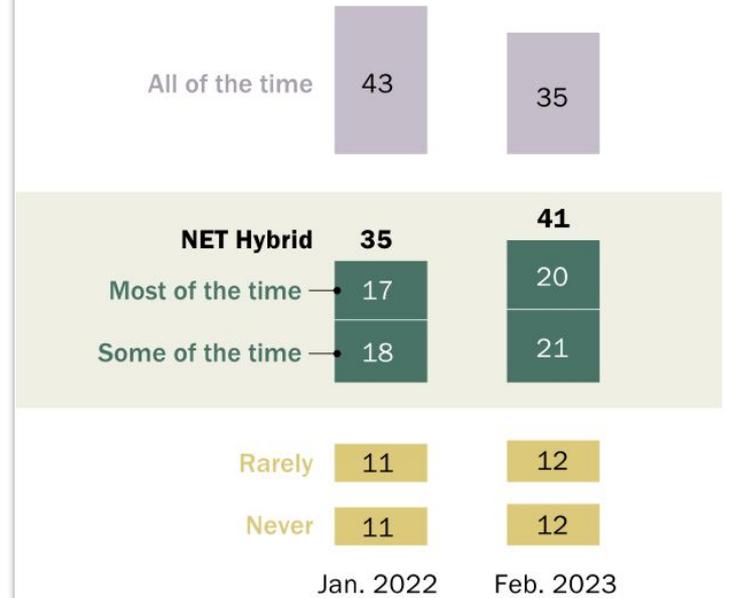


Remote knowledge work remains ubiquitous

COVID-19 may have forced us to work remotely in 2020-2021, but **many knowledge workers continue to work remotely.**

Growing share of U.S. workers are working a hybrid schedule

Among employed adults with a teleworkable job, % saying they are working from home ...



Source: Pew Research Center
Survey conducted Feb. 6-12, 2023

Executives and Research Disagree About Hybrid Work. Why?

Companies like Amazon have required a return to the office five days a week despite findings showing benefits to employers that allow some remote days.

Source: *New York Times*; Oct. 13, 2024

Flexible work update

Sep 9, 2025 | Amy Coleman - Executive Vice President, Chief People Officer



Amy Coleman, Executive Vice President and Chief People Officer, shared the below communication with Microsoft employees this morning.

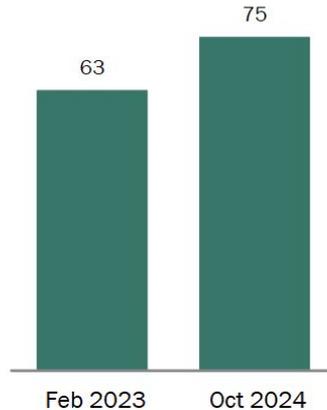
We've looked at how our teams work best, and the data is clear: when people work together in person more often, they thrive — they are more energized, empowered, and they deliver stronger results. As we build the AI products that will define this era, we need the kind of energy and momentum that comes from smart people working side by side, solving challenging problems together.

With that in mind, we're updating our flexible work expectations to three days a week in the office.

Source: *Microsoft Official Blog*; Sep. 9, 2025

Growing share of workers required to be in office a certain number of days

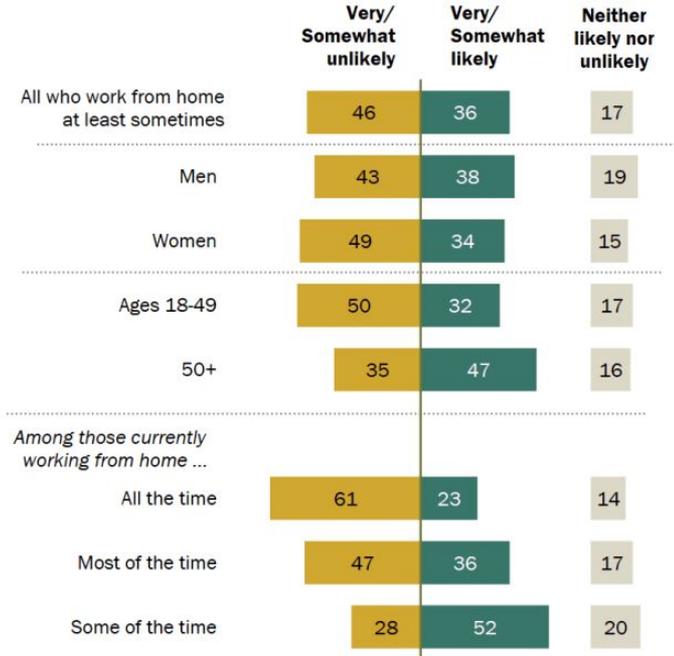
Among workers with teleworkable jobs who are not currently working from home all the time, % saying they are required to work from their workplace a certain number of days per week or month



Source: *Pew Research Center*
Survey conducted Oct. 7-13, 2024

Nearly half of workers who currently work from home at least sometimes say they'd be unlikely to stay at their job if they could no longer do so

Among those who work from home at least some of the time, % saying they would be ___ to stay at their current job if their employer no longer allowed them to work from home



Source: *Pew Research Center*
Survey conducted Oct. 7-13, 2024

How Much Pay Will Workers Sacrifice for Remote Work?

A new study of tech workers offers an answer: quite a lot

By [Lindsey Choo](#) [Follow](#)

Oct. 9, 2025 1:00 pm ET

As more tech companies tighten their return-to-office policies, [a new study](#) suggests that many job applicants are willing to accept less pay for positions that are either fully remote or on a hybrid schedule.

Source: *Wall Street Journal*; Oct. 9, 2025

Women are taking pay cuts as companies mandate return to office

Researchers are identifying several key factors behind why gender pay gap — which had narrowed steadily over the years — has suddenly widened.

October 11, 2025

Such decisions, in response to return to office (RTO) mandates, appear to be part of a recent dynamic: After decades of progress on closing the pay gap between men and women, it's now widening. For the first time since the 1960s, the earnings gap between men and women has widened two years in a row, according to recent [data](#) from the Census Bureau, with women earning 80.9 cents for every dollar a man earned in 2024. That compares to women earning [84 cents](#) for every dollar a man earned in 2022.

Source: *The Washington Post*; Oct. 11, 2025

Remote work:

(1) is desirable to workers, with little impact to productivity;

(2) has stabilized practices, warranting study on what makes them effective today; and

(3) is dismissed by many managers and executives, who worry that collaborative work can only be done in-person.

Our work: what practices are helpful or hurtful to remote and hybrid knowledge workers?



Gap 1: prior studies of remote work in CSCW are primarily qualitative, restricting us from quantifying what what factors are important across work contexts (e.g., small vs. large teams)

Prior qualitative studies of remote work

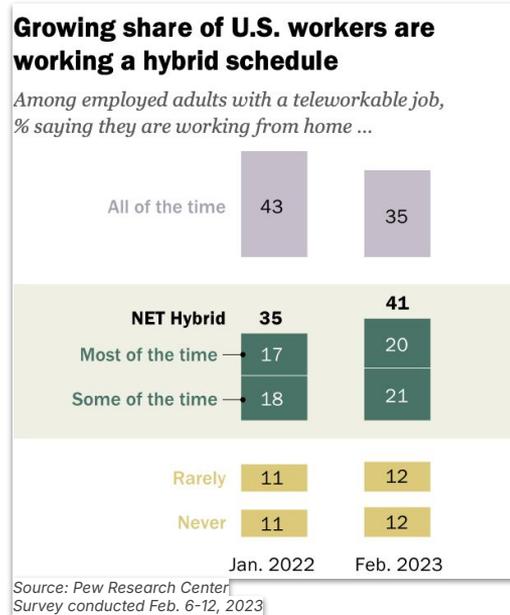
- What makes remote work difficult
Distance Matters (Olson and Olson, 2000); Does Distance Still Matter? (Bjørn et al., 2014)
- Challenges working across teams
A "Distance Matters" Paradox (Hu et al., 2022)
- Challenges with hybrid teams
Collocated Distance (Duckert et al., 2023)

Large-scale studies of remote work

- Focus on software engineering, which is only a subset of knowledge work (e.g., Ford et al., 2021)

Our approach: a large-scale survey that examines prior CSCW findings across a variety of professions, knowledge work activities, and workplace arrangements.

Gap 2: most studies of remote work were conducted prior to or early into the pandemic



Our work: survey administered in late 2023, which gives us a clearer picture of what matters for remote work moving forward.

Theoretically-informed survey deployed to 1,526 U.S.-based remote and hybrid knowledge workers

Screening
Filter for
knowledge
workers

Work activities
Select most
common remote
or hybrid,
collaborative
work activity

**Workplace
attributes**
Information
about with
whom, where,
and how work is
done

**Enablers /
barriers of work
activity**
5-point Likert
scales for rating
what helps or
hurts remote or
hybrid work

Screenener

Screenener
Filter for
knowledge
workers

Work activities
Select most
common remote
or hybrid,
collaborative
work activity

**Workplace
attributes**
Information
about with
whom, where,
and how work is
done

**Enablers /
barriers of work
activity**
5-point Likert
scales for rating
what helps or
hurts remote or
hybrid work

Full-time, remote or
hybrid knowledge
workers

Work activities

Screener
Filter for
knowledge
workers

Work activities
Select most
common remote
or hybrid,
collaborative
work activity

**Workplace
attributes**
Information
about with
whom, where,
and how work is
done

**Enablers /
barriers of work
activity**
5-point Likert
scales for rating
what helps or
hurts remote or
hybrid work

From taxonomy of
knowledge work
activities (Reinhardt
et al., 2011)

Information about workplace attributes

Screener
Filter for
knowledge
workers

Work activities
Select most
common remote
or hybrid,
collaborative
work activity

**Workplace
attributes**
Information
about with
whom, where,
and how work is
done

**Enablers /
barriers of work
activity**
5-point Likert
scales for rating
what helps or
hurts remote or
hybrid work

Team size and
structure, tool use,
work location, and
work norms

Enablers and barriers of work activity

Screeners
Filter for
knowledge
workers

Work activities
Select most
common remote
or hybrid,
collaborative
work activity

**Workplace
attributes**
Information
about with
whom, where,
and how work is
done

**Enablers /
barriers of work
activity**
5-point Likert
scales for rating
what helps or
hurts remote or
hybrid work

Understanding
enablers and barriers
to work activity

Enablers: How much does the following help you when doing [work activity]?

Based on Distance Matters by Gary and Judy Olson (2000)



Common ground

How well you know others on your team and what they work on



Collaboration readiness

Helpful collaboration practices



Technical readiness

How well teams adopt and use technology



Coupling of work

Reliance on others and autonomy in how one works



Organizational and managerial factors

How management supports the work activity

Barriers: How much does the following pose a barrier to [work activity]?

Based on prior literature studying challenges in remote and hybrid teams



Sense of belonging

How well you belong and contributes to the team



Distractions

Interruption from co-workers; caregiving responsibilities



Access to support

Having help when needed



Flexibility and agency

Ability to prioritize tasks and not being micro-management



Visibility

Knowing who's working on tasks and progress made



Coordination challenges

Different working hours; access to shared resources

Research questions and analysis methods

RQ1: What factors do knowledge workers perceive as enablers and barriers of remote or hybrid work activities?

- Descriptive statistics and confidence intervals for the enabler and barrier items

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- Descriptive statistics and confidence intervals for the enabler and barrier items

RQ2: What individual, team, and organizational-level differences affect workers' perceptions of the enablers and barriers of remote work?

- Mixed-effect linear regression for each enabler and barrier scale
 - Work activity modeled as a random effect
 - Workplace attributes modeled as fixed effects
 - Enabler or barrier scale as dependent variable

Themes from our analysis

1. Personal familiarity matters less
2. Workers and managers value different factors
3. Hybrid teams struggle more than virtual teams
4. Reliability of tools to support work
5. Norm setting for tightly coupled work

Theme 1: Personal familiarity matters less

For individuals, personal familiarity matters less:

Least enabling factor:

“Having met your teammates in person”
(M = 3.549, Moderately helpful to Very helpful)

Least hindering factor:

“Not knowing your teammates on a personal level” (M = 2.272, Slight barrier to Moderate barrier)

For teams, familiarity matters:

Compared to well-established teams, lacking a sense of belonging was a greater barrier for:

- Somewhat established teams ($\beta = 0.258$)
- New teams ($\beta = 0.416$)

Implication: encourage new members to actively participate, ask questions, and share obstacles their teammates to help build rapport and belonging.

Theme 2: Workers and managers value different factors

Managers value observability

Compared to skilled office workers, managers value common ground factors *more*:

- Middle management ($\beta = 0.129$)
- Senior management ($\beta = 0.152$)
- Executive management ($\beta = 0.363$)

...but value coupling of work factors *less*:

- Middle management ($\beta = -0.158$)
- Senior management ($\beta = -0.119$)

Workers value autonomy

“Being micromanaged in how I do the activity”
(M = 3.062, Moderate barrier to Large barrier)

Management found work flexibility and agency *less* of a barrier than skilled office workers:

- Senior management ($\beta = -0.240$)

Implication: encourage discussion between managers and workers on the differences in views on remote work, and activities that foster trust and information sharing without micromanagement.

Theme 3: Hybrid teams struggle more than virtual teams

Hybrid teams

Compared to fully remote teams, hybrid teams struggle *more* with distractions:

- Hybrid ($\beta = 0.245$)

Teams with different meeting modalities

Compared to all teammates on video call, workers not sharing the same modality was a greater barrier for:

- Sense of belonging (most on video: $\beta = 0.205$; most in-person: $\beta = 0.273$)
- Distractions ($\beta = 0.147$; $\beta = 0.206$)
- Access to support ($\beta = 0.164$; $\beta = 0.191$)
- Lack of visibility ($\beta = 0.257$; $\beta = 0.276$)
- Coord. Challenges ($\beta = 0.141$; $\beta = 0.196$)

Implication: hybrid teams need an increased emphasis on norm setting and setting shared values so team members can be equal participants across modalities, even if some compromise is needed.

Theme 4: Reliability of tools to support work

Teams with different meeting modalities

Technical readiness was *more* of an enabler for teams fully on video call versus:

- Mostly video ($\beta = -0.104$)
- Mostly in-person ($\beta = -0.111$)

Specific factors:

“Sharing the same norms for using the tools in my team” (M = 3.971, Very helpful to Extremely helpful)

“Not having permission to access a shared document” (M = 3.065, Moderate barrier to Large barrier)

Implication: teams need explicit norms around technology use (e.g., all team documents in a shared folder everyone can access) as companies become increasingly dependent on cloud-based tools.

Theme 5: Norm setting for tightly coupled work

Collaborating virtually:

“Having different work hours than my team” (M = 2.338, Slight barrier to Moderate barrier)

When working together, lack of visibility was less of a barrier when working asynchronous versus synchronously:

- Asynchronous ($\beta = -0.189$)

Team establishment and size:

Compared to well-established teams, somewhat established and new teams struggled more with *all* the barrier factors.

Larger teams struggle with:

- Sense of belonging ($\beta = 0.087$)
- Distractions ($\beta = 0.069$)
- Coord. Challenges, with external teams ($\beta = 0.068$) and without ($\beta = 0.063$)

Implication: norms should be established early, such as for when people are available and how often to share updates, and revisited as teams grow.

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Summary: what we can do to make distributed work successful today?

- 1 Personal familiarity matters less**
Remote activities may be sufficient for developing common ground and familiarity with individuals, but not enough for team familiarity, which may require encouragement for new members to share with team and activities like team off-sites.
- 2 Workers and managers value different factors**
Managers value observability of work but not task autonomy; while workers value task autonomy and limited micromanagement. Foster discussions to establish trust and information sharing.
- 3 Hybrid teams struggle more than virtual teams**
Teams with multiple work modalities need an increased emphasis on norm setting and setting shared values so team members can be equal participants, even if some compromise is needed.
- 4 Reliability of tools to support work**
Developing awareness of and norms to deal with common “inconveniences” of tools, like forgetting to unmute or sharing a document with a collaborator, instead of only tool proficiency.
- 5 Norm setting for tightly coupled work**
Teams with better collaboration practices can offset issues like mismatching hours, but may need to revisit norms as the team’s familiarity with each other and size change.

Paper: <https://dl.acm.org/doi/10.1145/3757438>

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