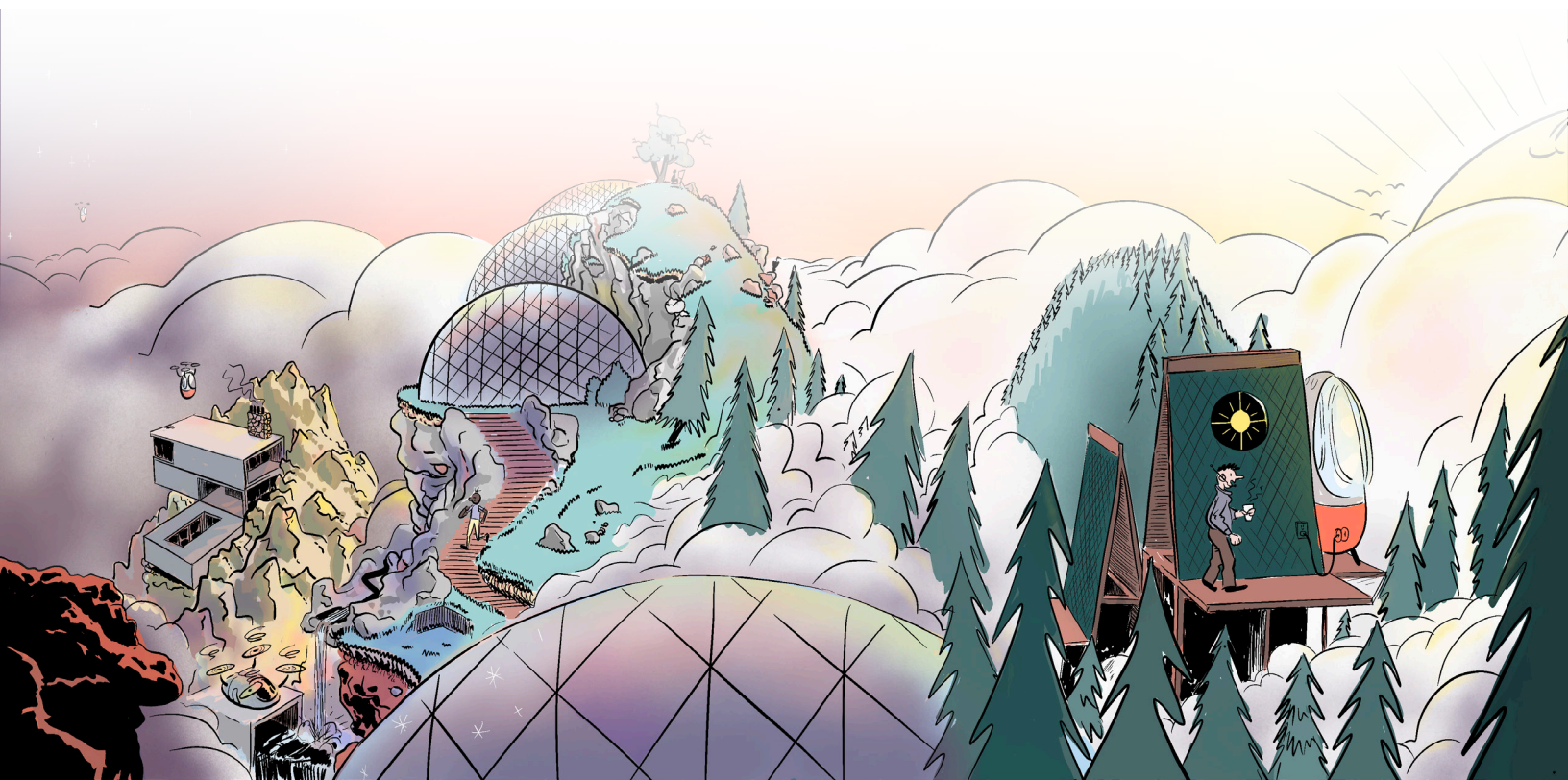# Tech Workers Say Better At-Home Tech Stack Would Increase WFH Productivity

By Alan Pelz-Sharpe and Peter Brooks
of Deep Analysis

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Executive summary

In July 2021, we undertook a survey of 500 software professionals in the US that revealed interesting and, in some cases, surprising information about employee and manager attitudes towards working from home. This independent study analyzes the benefits and challenges of hybrid work, productivity, tooling, and collaboration. Employers considering a return to the office should look at these findings carefully before acting.

Working from home (WFH) and hybrid working (partly from home and partly in the office) became a necessity for many employees and managers during the pandemic. Though it was a difficult and at times traumatic shift, and one that came with much uncertainty, tech professionals have adapted to these changed circumstances, and many have actually thrived.

Despite concerns among employers that employees may abuse the freedom they gain by working from home, our survey points to a **high degree of personal responsibility across both managers and employees, allowing them to maximize their productivity and value in remote situations.**

Nevertheless, survey participants also described challenges of working from home. We discovered that in-person human contact is still important, particularly when collaborating on data. Additionally, there is clearly frustration in the workforce over the structure, purpose, and value of many online meetings. Finally, finding the relevant information and data online that is necessary to do one's job is clearly a critical ongoing challenge.

It is important to note that this report focuses solely on workers and managers in the software industry. Such workers typically have access to good internet connectivity, computer skills, software, and physical equipment.
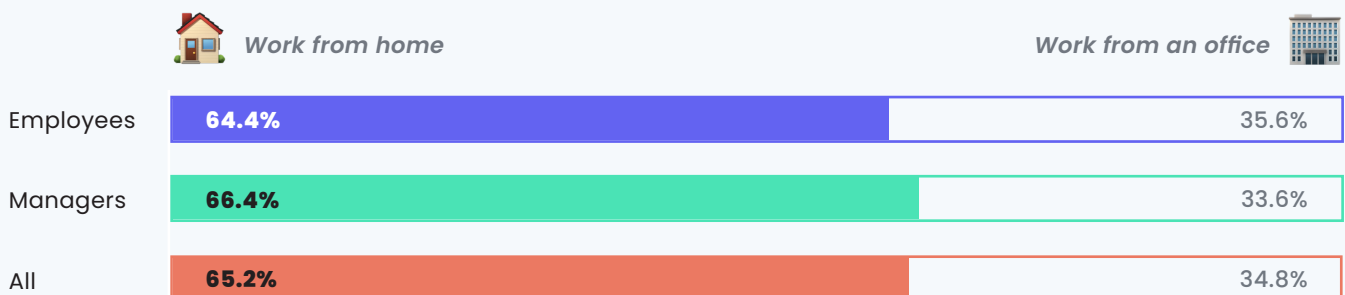
Key findings

This section summarizes key findings from the survey on the state of working from home: advantages, where it falls short, and how organizations could improve WFH for their employees and managers.

The state of mind on WFH/hybrid is positive overall

We asked respondents how they felt about WFH/hybrid situations overall, and the answers were overwhelmingly positive. Though there is a small divergence between managers and employees, both were satisfied or very satisfied overall with the current situation. Any thoughts that employees can't wait to abandon their homes and return to working in the office appear to be wildly misplaced, though in many cases they may prefer a hybrid environment. Though it has been posited in the *Harvard Business Review* that managers struggle more than their charges to work from home, our survey suggests the opposite, as managers were, on the whole, even more satisfied with the working situation than their employees. In the same vein, managers and employees in hybrid situations showed similar preferences for how they divided their time spent working at home versus in the office. Managers estimated that they spent 66.4% of their time working from home, whereas employees estimated 64.4% (see Figure 1). This result likely reflects the relatively flat hierarchical nature of many software firms.

Figure 1
Manager and employee percent of time WFH

🏠 Work from home   Work from an office 🏢

	Work from home	Work from an office
Employees	64.4%	35.6%
Managers	66.4%	33.6%
All	65.2%	34.8%

Similarly, for time spent working alone each day there was not a great deal of difference between managers and employees. Managers estimated they spent 40.6% of their time working alone, while employees estimated they spent 45.3% of their time working alone (see Figure 2). This means that both managers and employees spend over half their time working with others (which in a hybrid world often means they are on video calls).

Also clear is that a very large majority, over 90% of respondents, are perfectly happy working from home at least part of the time (see Figure 3).

Figure 3
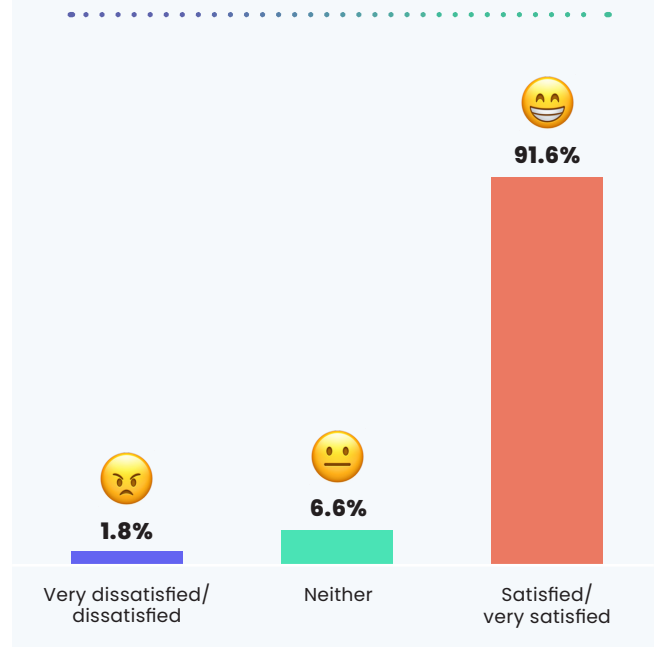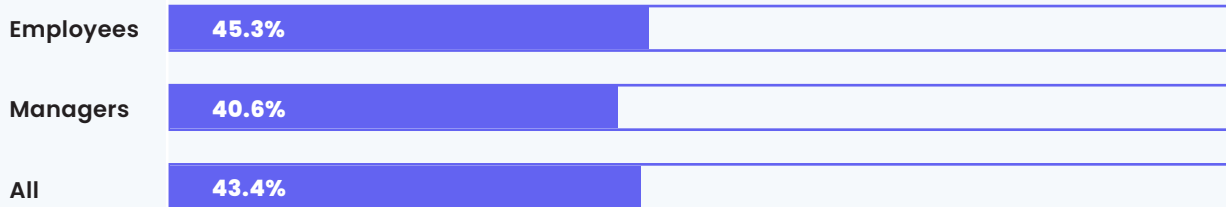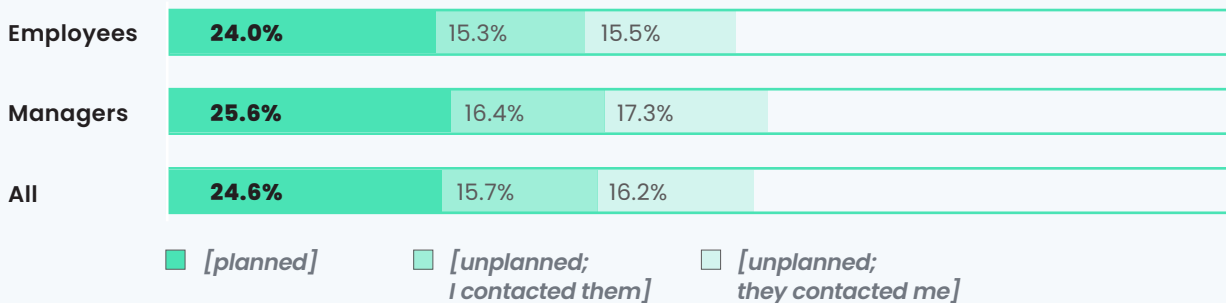**Satisfaction with hybrid or WFH environment**

	Very dissatisfied/ dissatisfied	Neither	Satisfied/ very satisfied
	1.8%	6.6%	91.6%

Figure 2
Manager and employee percent of day working alone

🙂 *Working alone*

Employees	45.3%	
Managers	40.6%	
All	43.4%	

🙂🙂🙂 *Working with others*

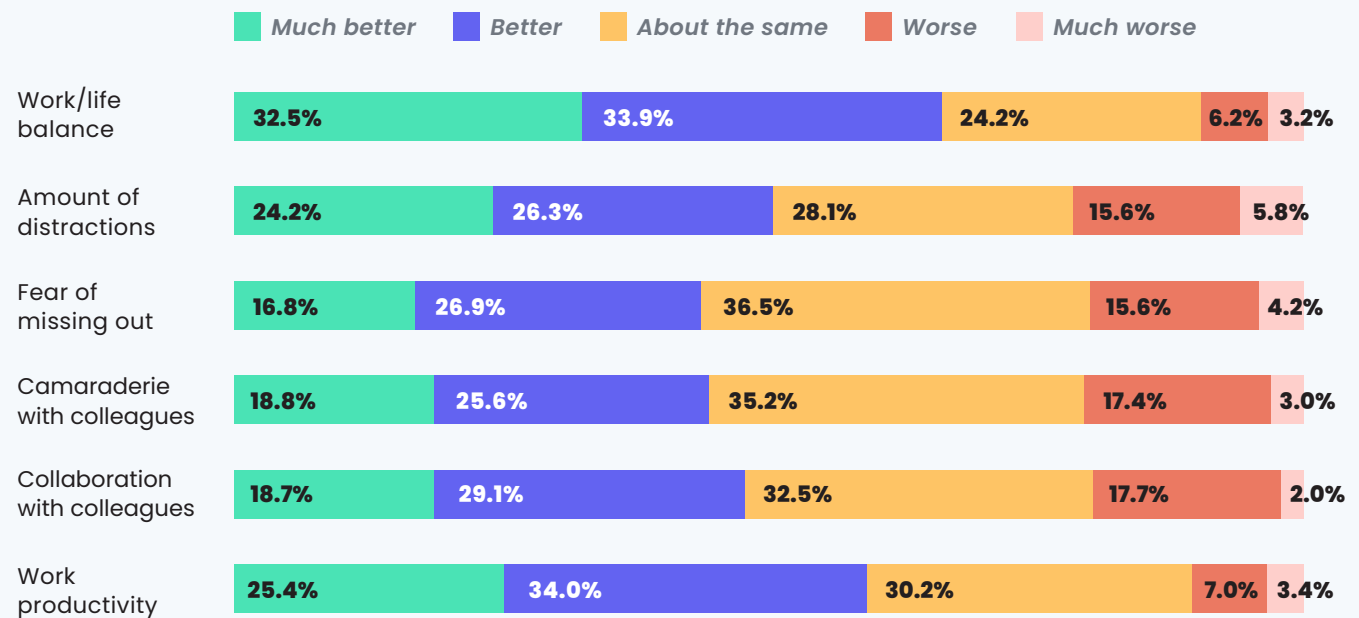|	[planned]	[unplanned; I contacted them]	[unplanned; they contacted me]
Employees	24.0%	15.3%	15.5%
Managers	25.6%	16.4%	17.3%
All	24.6%	15.7%	16.2%

WFH improves the work environment

Perhaps the most surprising finding in our research was how software professionals compared the experience of working from home to working in the office. Despite expectations to the contrary, WFH did not have a negative impact on productivity or working relationships. Far from it, in fact: A full 47.8% of those surveyed told us that compared to working in the office, working from home had actually *improved* their working relationships, and 50.5% said they encountered fewer

distractions when working from home than when working in the office (see Figure 4).

Again, it appears that 18 months into the pandemic we have had a major shift in how tech professionals work: not just physically in a different location, but how they organize their time and relate to coworkers. **Where WFH may have been seen as a perk before the pandemic – an opportunity to catch up on home life while doing some work – that dynamic has shifted to (dare we say it?) a new and seemingly more productive normal, one with implications for retention and recruiting.**

Figure 4

Comparison of WFH environment with working in the office

Category	Much better	Better	About the same	Worse	Much worse
Work/life balance	32.5%	33.9%	24.2%	6.2%	3.2%
Amount of distractions	24.2%	26.3%	28.1%	15.6%	5.8%
Fear of missing out	16.8%	26.9%	36.5%	15.6%	4.2%
Camaraderie with colleagues	18.8%	25.6%	35.2%	17.4%	3.0%
Collaboration with colleagues	18.7%	29.1%	32.5%	17.7%	2.0%
Work productivity	25.4%	34.0%	30.2%	7.0%	3.4%

INSIGHT

Despite expectations to the contrary, WFH did not have a negative impact on productivity or working relationships.

Hybrid working wins the race

Though employees and managers are happy working from home, our survey also reveals that spending at least some time in the office (the hybrid experience) is preferred over working in the office full-time or working at home full-time.

What is particularly interesting is that hybrid working wins out by quite a margin. Most respondents considered hybrid working ideal in terms of productivity, whereas they found working full-time from home to be the least productive option (see Figure 5), as being completely physically disconnected from co-workers is not ideal. In our survey, almost everyone who worked in a hybrid fashion could choose when to work in the office; that schedule was not structured or mandated by their employer. The flexibility appears to help boost productivity, as employees can go to the office when they feel it's important to meet in person with their co-workers and not simply when they are told to do so.

Current remote tool stack works well

As this survey focused on the software industry, we might infer that the respondents typically have access to better technology and have superior technology skills (or, at the very least, are overall better equipped to deal with changing circumstances) than workers in other industry sectors. In fact, over 91% of respondents were satisfied or extremely satisfied with their at-home technology stack (see Figure 6).

Figure 5

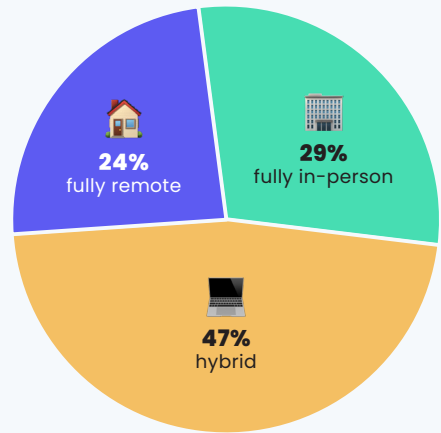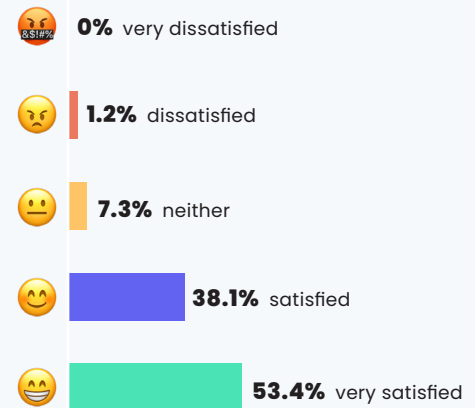**Most workers say hybrid experience is most productive**

- 24% fully remote
- 29% fully in-person
- 47% hybrid

Figure 6

Satisfaction level with remote technology stack

- 0% very dissatisfied
- 1.2% dissatisfied
- 7.3% neither
- 38.1% satisfied
- 53.4% very satisfied

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Still, within this data there are nuances. Though just over half of employees were *extremely* satisfied with their at-home technology stack, the others were merely satisfied. We infer from this that for almost half of the workforce, **the technology stack works well enough – but it's not perfect, and improvements can be made.**

This is confirmed **by the fact that the same respondents said they would be much more productive if the technology stack were improved** (see Figure 7).

Our conclusion in this case is that the technology works as well as it can but clearly has some limitations. Workers indicate they are frequently unable to gain easy access to information while working remotely or, more critically, while in an online meeting or discussion with a co-worker.

Though the survey found that there are technical challenges and opportunities regarding online information and data access, we should note that poor meeting management protocols may also play a role (see Figures 8 and 9). If necessary information and data are not readily available in online meetings, that may be the fault of those attending the meeting rather than a technological problem.

INSIGHT

Respondents said they would be 58% more productive if their tech stack were improved.

Figure 7

By what percent would productivity increase with better tooling in these categories?

Average
58.0%

Data storage/file sharing tools
58.8%

Chat tools
56.5%

Online meeting tools
58.7%
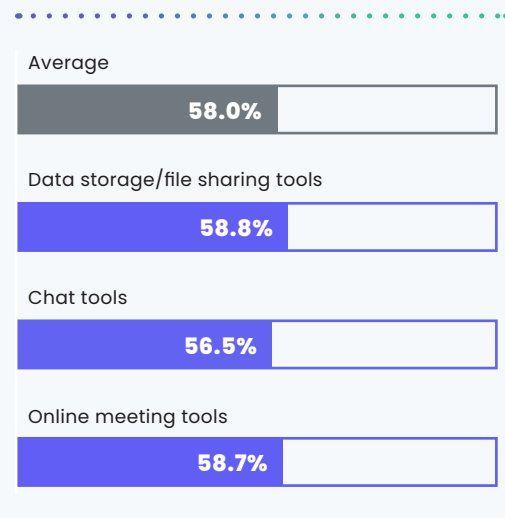
Figure 8

How to make remote collaboration more productive

[Rank 1 (high) - 8 (low)]

Faster decision making
More effective meetings
Less questions/ unnecessary chit-chat/fewer interruptions
Better decision outcomes
More available data
Less meetings/ more chats
Real-time documentation of collaboration and results
Less meetings/ less chats

Productivity suffers from attending meetings nearly half the time

On average, survey respondents work alone 40% of the time and collaborate with others the other 60%. Our survey reveals that working alone is fundamentally productive, but productivity problems arise when work is undertaken collaboratively, be that in meetings or in working together with data.

One of the most interesting findings is just how much time is wasted in online video conferences and interactions. Though it likely comes as no surprise to anyone who has been subjected to 18 months of Zoom calls, the numbers here are nonetheless striking. Nearly half of respondents stated that 40% or more of the time spent on video conference calls was unproductive and wasteful. In other words, just under half of every meeting is a waste of time!

This sentiment is clearly not the fault of the technology; rather, it points to both poor management and scheduling of unnecessary meetings. Our finding of a high level of dissatisfaction with both the quality and slow pace of decision-making by colleagues who run meetings backs this up.

Figure 9
Better info access would make online meetings more effective

How could online meetings be more effective? *[Rank 1 (high) - 6 (low)]*

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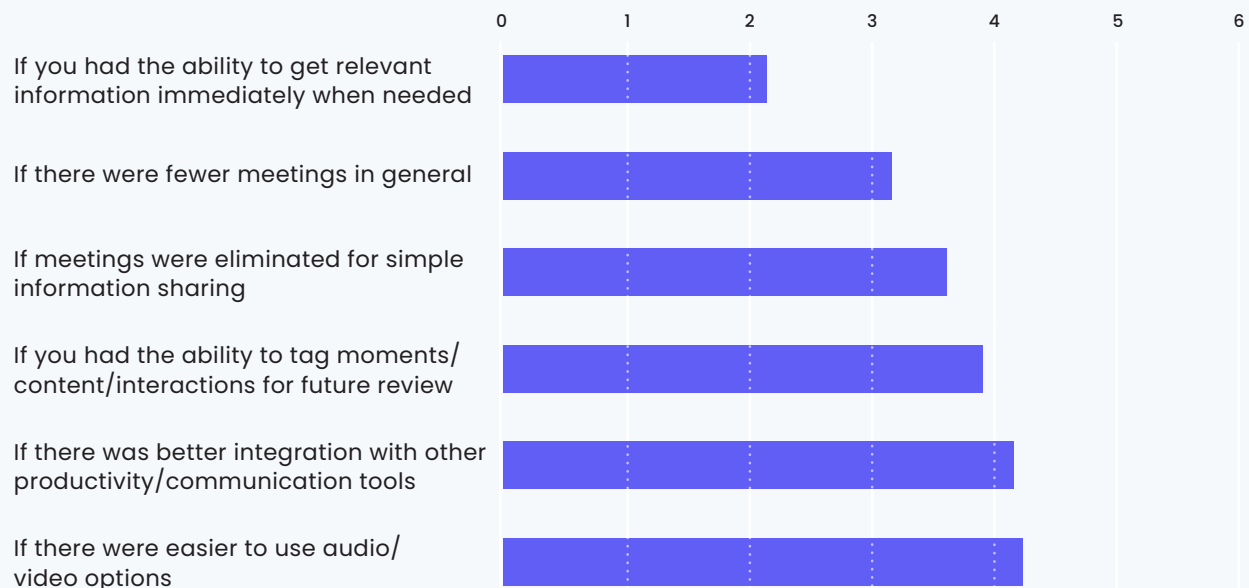
INSIGHT

Nearly half of respondents stated that 40% or more of the time spent on video conference calls was unproductive and wasteful.

Managing meetings is arguably just as difficult in person as it is online, and the wasted time element is consistent whether folks are in the office or working from home. Still, this research makes clear that more effective meeting management is needed across the board. Best practices for meetings include, for example:

→ **Setting a specific agenda and sticking to it**
→ **Only inviting those who are essential**
→ **Making meetings shorter**

Consider for a moment that WFH survey participants spend around 24% of their time in planned meetings and conversations. While important, this research makes clear that these planned interactions are far from *optimal*. What's more, within those planned interactions, around 60% of the time is spent collaborating with data, and ready access to the right data was elsewhere identified as a key challenge in our survey. This creates a situation of some concern.

# Finding relevant information, data, and knowledge is difficult

Accessing the information, data, and knowledge you need to do your job is clearly critical, and even more so for knowledge workers (as nearly all in the software industry are). But, very often, finding relevant information is difficult, as information resources are typically poorly managed. The information you need to do your job may be stored in a portal like SharePoint, a file or document management system, or even an email system. We had thought at the start of this research that workers might want to see their enterprise search system improved, but this barely registered as a priority. In the context of Deep Analysis' own research into enterprise search technology, we believe that search engines are rarely used or trusted within the enterprise and that the situation is not improving.

Particularly interesting is that most employees do not want access to everything. They only want what they need to see; in other words, they want information to undergo targeted curation and to be managed for relevance.

In fact, the number one answer to the question, "How could online meetings be more effective?" was: *"If I had the ability to get relevant information immediately when needed."*

Figure 8
How file sharing could be more effective

[Rank 1 (high) – 6 (low)]

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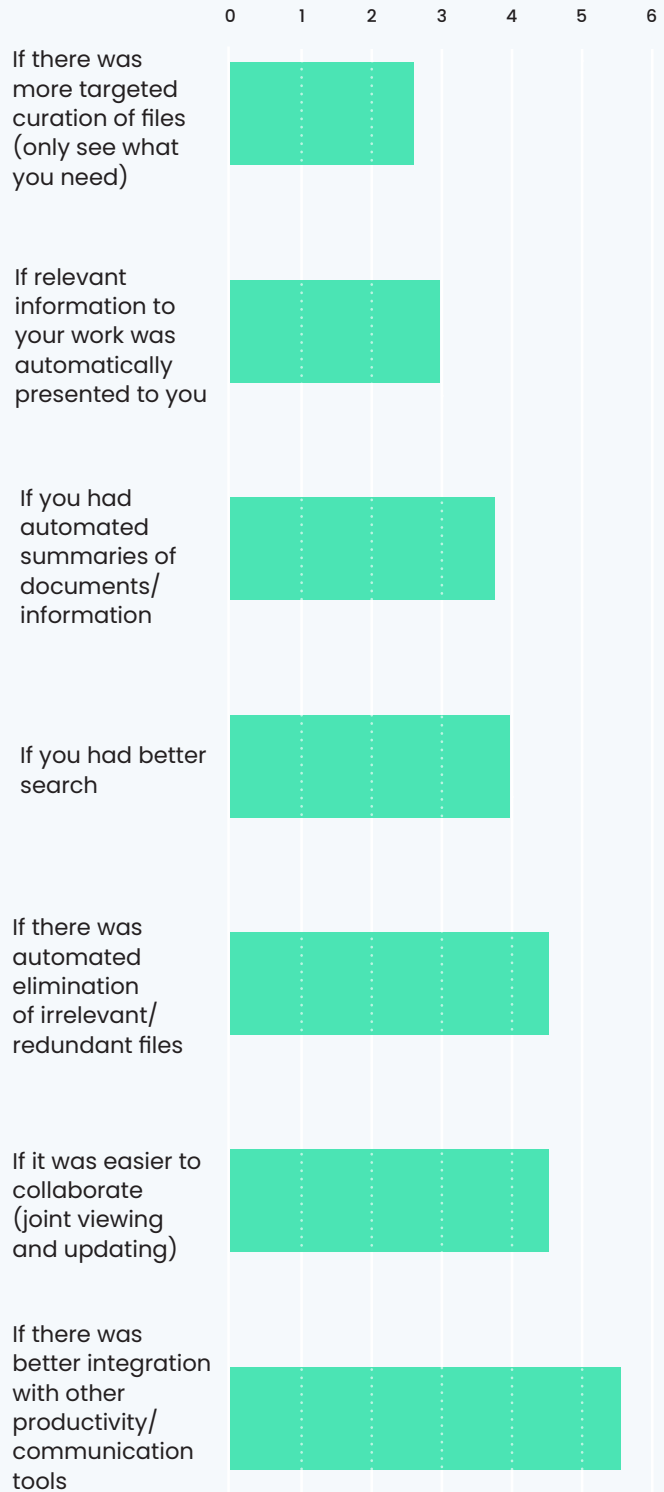
When we asked more specifically, "How could file sharing be more effective?" the top answers were:

1. If there was more targeted curation of files (only see what you need)
2. If relevant information to your work was automatically presented to you
3. If you had automated summaries of documents/information (see Figure 10)

> **INSIGHT**
>
> Particularly interesting is that most employees do not want access to everything. They only want what they need to see; in other words, they want information to undergo targeted curation and to be managed for relevance.

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What software professionals want

The findings in the previous section tell us that information needs to be managed and that modern approaches leveraging knowledge management methodologies and machine learning/AI could have a big impact on worker productivity. Simply providing an integration point to a file sharing system is not enough because the sheer volume of data points, information, and knowledge sources make those systems difficult to navigate.

Workers don't want to search through piles of information to find what they need. Nor, it seems, do they want to use a search engine to help them. What they want is intelligent information management that separates the signal from the noise and presents it in the most accessible and useful way possible.

This finding may be the most important of all in this study. Though the technology exists today to meet these needs, few are using it. Of those who are, few are using it effectively. There appears to be a significant disconnect that needs to be resolved. When we asked respondents what they could do to improve their WFH and hybrid situations, the comments generally fell into three broad and often overlapping categories:

1. Improving their physical work environment.
2. Improving their work discipline and time management.
3. Improving the technology stack they use.

It may be no surprise that many still struggle to find a quiet, private, and productive physical environment in which to work at home. Distractions from others in the home (including children), space considerations, equipment, and ergonomic factors were challenging for many. But one idea that caught our attention was that many would like to improve their tech stack to work more productively. That may be through having a more reliable and faster internet connection that allows them to move beyond Zoom calls and to utilize more optimal collaboration systems. A number of respondents wanted their employer to invest more in providing employees with the equipment and software they need to get their work done. Specifically, a number of respondents raised the challenge they face in gaining access to relevant work information and said they want their employers to invest more in the tools to easily access, share, and receive relevant information.

INSIGHT

Workers want intelligent information management that separates the signal from the noise and presents it in the most accessible and useful way possible.

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Overall, though, the personal comments and thoughts shared with us in this research paint a less rosy picture of home working than the rest of the data may suggest. Though overall satisfaction levels are high and tech professionals have clearly become used to working from their homes, many challenges remain, and new ones are likely to surface as more employees return to the office.

In our analysis, software companies may want to consider investing more in training and support services (both technical and well-being) to ensure work is conducted optimally, and providing home workers with more benefits to support their home working environment. Even at software companies, not every employee can afford high-speed internet access and a MacBook Pro. Nor can they all afford to furnish their home working environments to make them as comfortable and productive as possible. Similarly, software firms may want to consider revisiting their collaboration and information storage systems and upgrade or even replace them with systems designed to better manage information and promote knowledge *sharing.*

Benefits will accrue from technology and productivity improvements

Employees and their managers have adapted extremely well to often forced changed working environments. They are as productive as they were in the office and appear to prefer a WFH or hybrid working environment. But the shift to remote working meant that technology designed for occasional remote working is now used permanently. The technology works well on the whole, but improvements in how information in the form of documents, forms, knowledge, and data is shared and collaborated on may well produce a further boost to productivity and worker satisfaction.

Though it may be a cliché, a positive employee experience will typically generate a positive customer experience. Increased productivity means increased profitability, and there are clearly productivity gains to be made by addressing some of the existing challenges of home working through better management of online meetings or utilizing technology and best practices to curate and deliver relevant information assets.
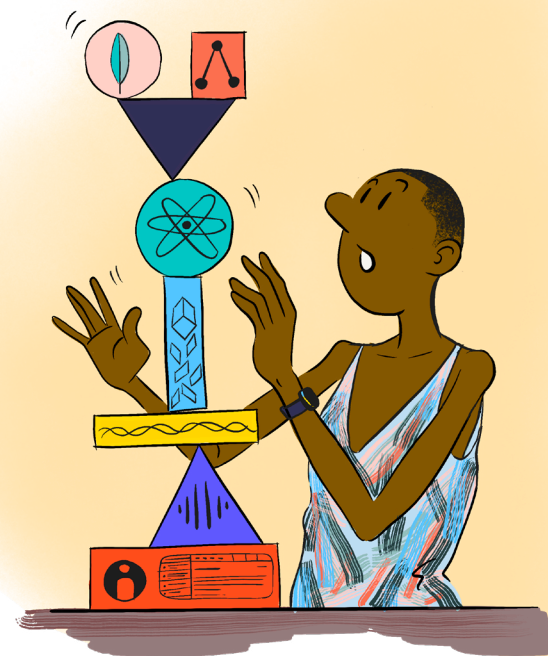
Synchronous versus asynchronous collaboration

In any given day, many of us are asked something along the lines of, *"Shall we set up a call to discuss?"* If your heart sinks each time you hear this, you are not alone. It may simply be the need to see another human face, even on screen, but the number of video conferences has risen exponentially over the past couple of years. Google Meet, Microsoft Teams, and Zoom alone support well over 500 million calls per day.

What our survey tells us, and what many of us already suspected, is that synchronous collaboration (interacting live via Zoom or phone calls, for example) is not always as effective as asynchronous collaboration (where there is a delay between receiving information and responding, such as email, voicemail, or chat).

Asynchronous collaboration removes distractions, reduces time-wasting, helps speed decision-making, and can keep business communications on point.

If asynchronous collaboration were embraced in the workplace and enabled with the right technology to support it, productivity would likely increase. Rather than scheduling work around video meetings, workers could construct and follow their own agendas and complete work tasks more easily (in theory, at least). By focusing attention on one task at a time, workers also would have the flexibility to undertake more detailed work and to make better business decisions.

However, in order to truly take advantage of this type of acceleration, companies will have to radically rethink meeting structure (for instance, by making meetings action- and discussion-oriented instead of opportunities to run through slide decks) and make knowledge more easily accessible at any time of day, in any location.
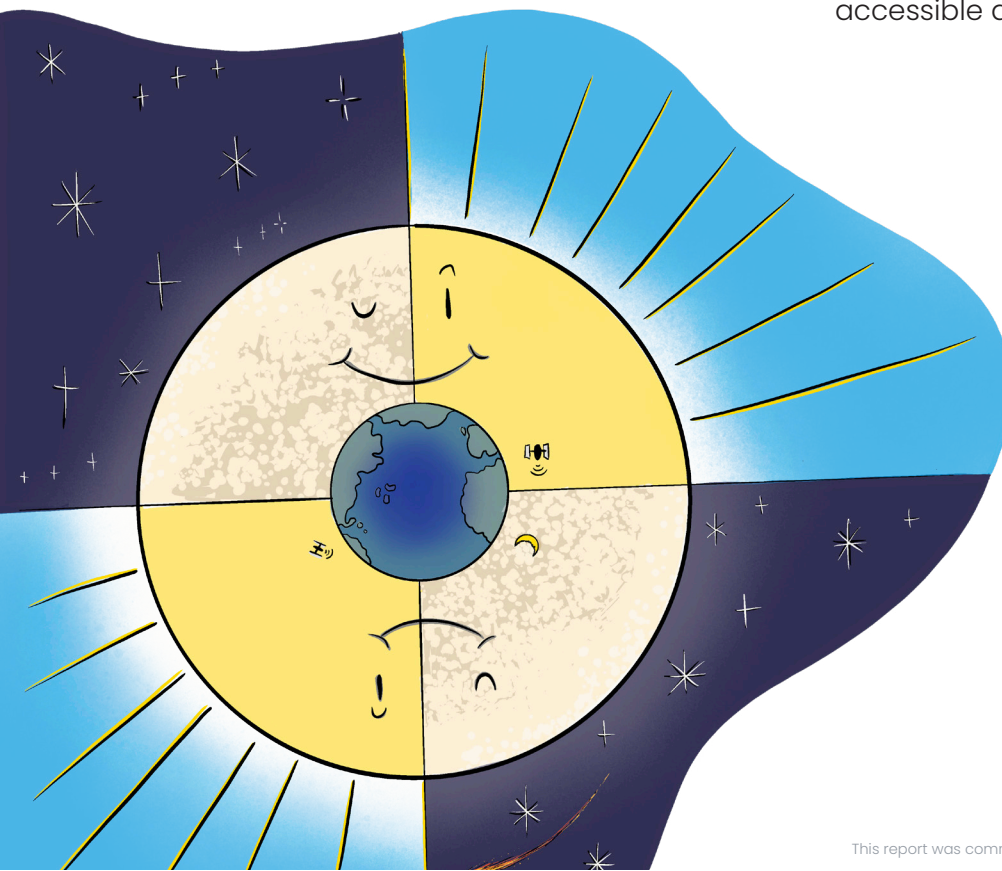
What software professionals want

It is important to remember that although some workers have been remote for many years, even before the pandemic, the enforced nature and sudden increase in WFH means that this is still a transitional period for companies. Few have truly decided how they will structure their working environments in the future; this is still a work in progress – and it always will be as business and societal factors both large and small are in constant flux. Workers have adapted well and adopted business collaboration systems to support their remote working in the face of extreme circumstances, but this is not a sustainable end state.

Moving forward we expect to see changes, and hopefully improvements, in the technology stacks and the methods of working together with them. Our research shows that asynchronous working has many benefits, and new ways of productively leveraging those methods – via voice, chat, or video – are still nascent because the focus has largely been on creating a synchronous at-home working environment over the past 18 months in particular. There is much to be explored here, and the magic is in finding the right balance and the right tools for the right job. Finally (and similarly), decades of accumulating mountains of data and information, in parallel with the ever-decreasing costs of cloud and on-premises storage, have left many firms with

digital landfill: lots of information, lots of data, but little to no means of effectively leveraging it. More powerful laptops and cellphones along with ever improving internet and cellular bandwidth, low-cost access to cloud computing, and dramatic improvements in UI designs have taken today's home technology stack about as far as they can. What is needed now is to deal with the core underlying business process activities of design and knowledge work to ensure we continue to improve the productivity and general working environment.

Methodology and survey makeup

In July 2021 we surveyed 500 software company employees in the United States. The survey ran for one week and split survey takers into two groups, employees and managers. 59% of those surveyed worked in a hybrid situation with the remaining 41% working remotely full time. Of the hybrid workers, the average time spent in the office versus working from home was approximately 35%, which translates to 1 or 2 days each in the office.

When it came to deciding when they worked in the office versus working at home, 84% of the hybrid workers said that they were able to decide for themselves, versus 16% who stated that the specific time to be in the office was mandated by their employer. The size of the companies that respondents worked for ranged from 150 to 5,000 employees. Of the 500 surveyed, 61% classified themselves as workers and 39% classified themselves as managers.

Endnotes

[1] https://hbr.org/2020/07/remote-managers-are-having-trust-issues

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