



The Invisible Computing Company



Tomorrow's Workplace Technology: *What Happens When Things Get Personal*

**How Consumer Tech Is Influencing Worker Preferences and
Changing the Course of Enterprise Tech Adoption**

Introduction

Looking back over the past 25 years, the road to consumer adoption of technology has historically been paved by the enterprise. As the earliest users, businesses have shaped the development of now common technologies such as desktop PCs, laptops, email, and web access — long before these devices were part of mainstream consumer life.

But, starting with the iPhone and subsequent generations of smartphones, whole sectors of technology have been championed by consumers before business customers. This catalyzed organic growth in the enterprise and introduced the bring-your-own-device (BYOD) trend. The trend has continued to pick up steam, with workers ever more fiercely advocating for their personal favorites, from collaboration tools like IM and Slack, to social media, to tablets and smartwatches.

Will this trend continue with the tech of tomorrow? Out of augmented reality, virtual reality (AR/VR), wearable devices, artificial intelligence, and others, which advanced technologies do employees see themselves using in the workplace 10 years from now? And do consumer preferences for technology align with enterprises' plans for adoption?

Decline of the smartphone

Gartner recently claimed “that after years of growth, the worldwide smartphone market has reached a tipping point. Sales of smartphones will decline by 3.2 percent in 2019, which would be the worst decline the category has seen.” For years, these devices have been intertwined with our personal and professional lives, providing access to critical information when we need it the most. But as history has shown with Palm Pilots and Blackberries, today’s smartphones can also be seen as a stepping stone to the development of something far greater.

Rise of AR/VR

Looking toward the next wave of technology, commercial enterprises are indicating that AR/VR adoption in the workplace is not a matter of if, but when. IDC predicts that commercial sectors will account for 80 percent of worldwide spending on AR/VR products and services by 2022.

Worker preference and value matters

In order for enterprise adoption of any new technology to be successful, employees will have to embrace the tools as part of their job. In a PwC survey last year of industries worldwide, 90 percent of C-suite executives said they paid attention to employee needs when introducing new technology. Yet, only about half of workers agreed that their employers had their needs in mind, the survey said.

Hardware is more personal

This sort of attention to worker needs is especially important for hardware technology in the workplace. Because these devices are more personal and tactile, workers need to not only be comfortable with them, but also see their value. The technology needs to increase efficiency, streamline tasks, and help workers solve their day-to-day challenges, or even the most promising tools won't be adopted.

Consumers across all age groups are more and more comfortable with technology, driving change and impacting digital transformation in the enterprise:

Worker Preferences Impact IT

79%

Gen Z workers said they would use the **most efficient app** in their working life to get the job done — whether or not IT has vetted it

(2019 survey by Nintex)

80%

Managers said their organization had formally adopted a new tool or technology specifically because a Gen Z employee proposed or requested it

(2019 survey by Nintex)

BYOD Impacts Processes

71%

Executives changed at least one business process five years after the iPhone was introduced *(source: Avanade)*

20%

Executives changed four or more business processes five years after the iPhone was introduced to adapt to increased use of mobile devices *(source: Avanade)*

The Acceleration of Consumer Tech Drives Faster Digital Transformation

“People are adopting new technology both quickly and completely, and ... they are beginning to outpace enterprises in their digital transformations. They are more knowledgeable about technology itself and how companies use it, and are becoming selective and demanding of what they adopt, challenging companies to work with them or adapt to them in different ways.”

(Accenture Technology Vision 2019 Report)

Today, employee acceptance of emerging technologies looks promising for tomorrow's enterprise. Demonstrating an open and adoptive nature toward new technology, workers see a future where AR/VR headsets, smart glasses, and even personally-embedded devices will be commonplace and help them improve their work. They also imagine a world where technology becomes less intrusive, allowing them to focus on the tasks and/or people in front of them, and not their interaction with screens.

In this report, we uncover data and insights that will help enterprises understand how current workers feel about using advanced technology tools on the job, what drives acceptance, and how they may benefit professionally. Because without significant acceptance from workers, enterprise investment and plans for emerging technologies could be at risk.

Key findings from the survey include

Workers see benefits of AR/VR



Workers would be open to using AR/VR headsets or similar devices if asked by their employers, and 48% think AR/VR headsets or similar devices could help them learn new skills at work

The future of workplace technology



US workers say their desktop computer or workstation is the most important technology tool for their daily job, 55% see a future where AR/VR headsets or similar devices are as commonplace as smartphones

Technology fades into the background



Believe future workplace technology will be less visible and operate more in the background, allowing workers to focus on their task or people, and not on their interaction with technology

The new screen is not in front of you, it's on you



Believe that in 10 years, screens will be replaced by new displays such as smart glasses, contact lenses, headsets, etc

But usability, comfort, and satisfaction are keys to worker adoption



Workers feel that both the comfort and potential awkwardness of AR/VR headsets or similar devices would be an issue if they had to wear them regularly in their jobs

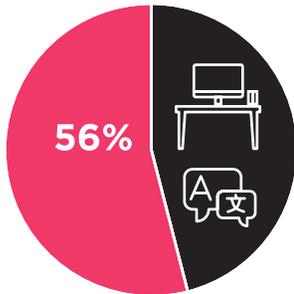


75%
Workers have never used AR/VR glasses, headsets or similar connected devices on the job, yet **78% of workers** would be open to using these devices if asked by their employers

55%
US workers see a future where AR/VR headsets or similar devices are as commonplace as smartphones

Workers face professional challenges every day but are optimistic about help from the workplace technology of tomorrow

For enterprises to drive adoption of new, advanced technologies, especially hardware devices that are used by workers in the office and the field, they will need to consider how such technology can help with everyday on-the-job challenges.



Workers say that future workplace technology will make it easier to communicate with people in other locations or in different languages, fostering more personal connections

Employees believe the future of workplace technology is promising and will have a personal impact on their job



Say workplace technologies will become more customized to each industry or person's profession



Say workplace technology will be less visible and operate in the background, allowing workers to be more personal, focusing on colleagues and tasks, and not on interactions with technology

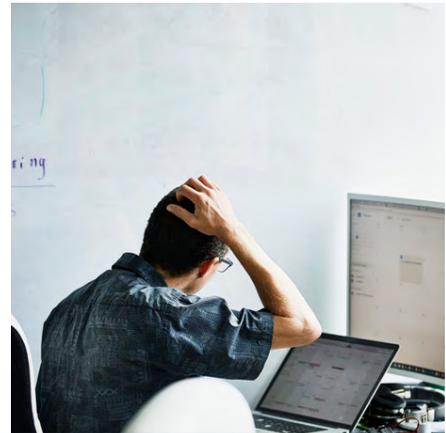
A comparatively small number of workers foresee workplace technology becoming overly complex



Believe workplace technologies will become more complicated and harder to use



Think the number of tech tools will increase, causing them to be overwhelmed and distracted



66%

Workers say they often struggle to manage their workload and daily tasks

52%

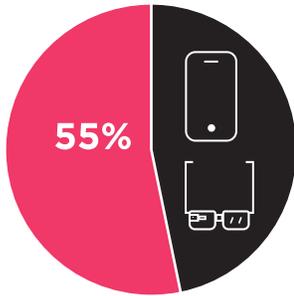
Workers say they struggle to take on more responsibility and grow in their current position

47%

Say they struggle to effectively communicate and collaborate with coworkers, clients, and/or customers

Not only are employees open to new workplace technology, they expect it — and soon

The rapid pace of technology advancement and adoption — especially across the consumer market — appears to have made workers comfortable with new workplace technologies. And they see themselves using very different tools just 10 years from now. Furthermore, industry data shows that workers increasingly are bringing technology into the workplace — a “BYOD and ask for forgiveness later” approach — effectively advancing its acceptance and maturity.



More than half of US workers see a future where AR/VR headsets or similar devices are as commonplace as smartphones



Say that wearable devices (smartwatches, smart headphones, smart clothing, etc.) will be increasingly used in business applications



Believe that in 10 years, screens will be replaced by new displays such as smart glasses, contact lenses, headsets, etc.

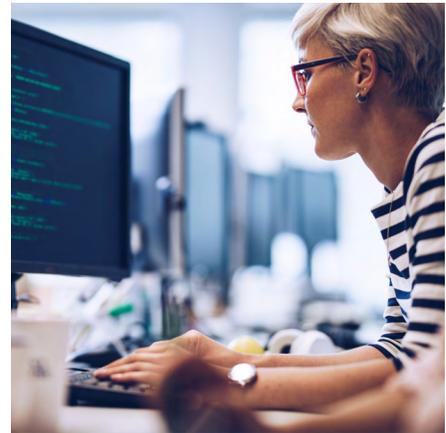


Say that artificial intelligence (AI) will make or assist in critical business decisions



According to 29% of respondents, VR technology will change the idea of an office, allowing more people to work from home or in different locations instead of a traditional office space

Respondents across all age groups demonstrated an eager and open approach to embracing new tech on the job. Digital natives, aged 18-29 who grew up surrounded by laptops, smartphones, and tablets, were only slightly more eager than their older colleagues.



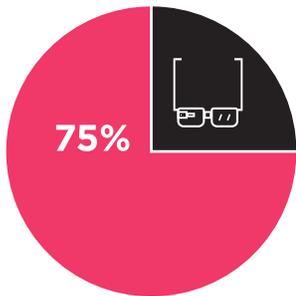
53%

Workers in the US say their desktop computer is the most important technology tool for their daily job

49%

However, almost half think they won't be using desktop computers regularly at work in 10 years time

What's the next wave of workplace tech? According to workers, AR/VR has big potential



Even though 75% of those surveyed haven't been exposed to AR/VR in the workplace, 78% of workers would be open to using AR/VR headsets or similar devices if asked by their employers

How might AR/VR glasses, headsets, or similar connected devices be useful for workers?



Give workers immediate access to information, like sales numbers, forecasts, or other essential data



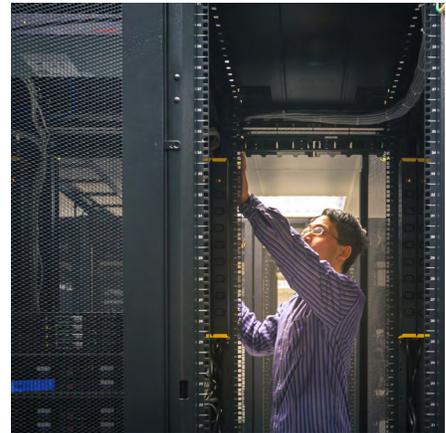
Help workers learn new skills



Help workers with public speaking by having information in front of them, so they won't forget important points



Help workers remember or adhere to required processes, procedures, or compliance



78%

Of workers would be open to using AR/VR headsets or similar devices if asked by their employers

54%

Believe that AR/VR can give workers access to valuable information throughout the day for meetings and conference calls

Yet, to meet high standards set by consumer tech, current AR/VR hardware will have to make some changes ahead

Worker perception of what it would be like to use AR/VR technology on a regular basis shows us professionals will be more open and willing to use this technology on the job only if key issues around usability, comfort, and privacy are addressed.

When AR/VR glasses, headsets, or similar connected devices become more common at work, workers anticipate the following issues



Feel concerned about their privacy



Say that comfort would be an issue if they had to wear them for extended periods of time



Would feel weird or awkward wearing such devices around coworkers



Worry about technology overload and that these devices could get in the way of face-to-face interactions



58%

Feel concerned about their privacy

49%

Believe that comfort needs to be addressed to wear AR/VR technology throughout the day

What's on the horizon? Technology may reach a vanishing point...

As technology continues to grow smaller, even down to nanoscale, businesses have an opportunity to do more with less. "More" can mean more processing power in a smaller form factor, but it can also mean more with less conspicuous hardware. Bob O'Donnell, chief analyst at TECHanalysis Research, predicts that if "technologies work as intended, they'll start to disappear into the workings of the world and devices already around us." So, what would it be like for workers if their everyday technology tools became less visible, even invisible?



Invisible Computing

What if workers could see or access information on a mobile device that was only visible to them and invisible to everyone else?

Everyday benefits on the job include

61%



Immediately recall critical information required to complete a task or process

56%



Important information on hand for meetings or presentations

47%



Face-to-face connections with customers or clients

42%



Increase productivity and streamline tasks

34%



Be more confident in public speaking

Conclusion

Despite the interest and initial investment in AR/VR technology by enterprises, a tipping point awaits. There are early successes, specifically in employee training, as well as other vertical industry use cases like surgical procedures and manufacturing. But if consumer adoption of this technology says anything about the future of AR/VR in the workplace, user experience and comfort with devices is not there yet.

While 87 percent of households have mobile phones today, only one third have reported using AR and only 11 percent of consumers report owning a VR headset, according to recent industry data. There are multiple factors holding back widespread adoption, which means the industry will need to generate broad consumer awareness and interest, build new AR/VR applications, and continue to improve device ergonomics and technology.

Successful worker adoption of advanced technologies is going to be both push and pull. Necessity and clear benefits will drive interest and demand, while improvements in form factor and applications will pull AR/VR technology through in terms of actual usage and satisfaction.

Today's workers, especially digital natives in the workforce, are increasingly accustomed to the latest technology and have higher expectations for usability and benefits. It's clear that issues like privacy and bulky hardware are barriers to overcome. Enterprise policy will need to incorporate key privacy controls. To address usability, technology design will need to transform more visible devices to form factors that are less intrusive, near-invisible, and socially acceptable.

In the next 25 years, technology has the potential to advance at a more accelerated pace and power new abilities and skills in both business and life. If the future unfolds in the way that workers predict it will, technologies like AR/VR will enable people to be less focused on technology and more focused on the task at hand. But first, the enterprise needs to acknowledge that in many ways, workers hold the keys to adoption. Understanding workers' needs and technology preferences will direct the right kind of innovation for new workplace technology and turn AR/VR from promise to productivity.



Methodology

Mojo Vision surveyed over 1,000 consumers in September 2019. This survey was completed online and responses were random, voluntary and anonymous.

About Mojo Vision

Mojo Vision is the Invisible Computing Company, dedicated to developing products and platforms that re-imagine the intersection of ideas, information and people. Instead of being tethered to devices that are increasingly a distraction in many aspects of our lives, Mojo envisions delivering information and knowledge that is immediate, but without the disruption of traditional devices. Mojo is inventing the future of computing—Invisible Computing—which imagines a world where information is there when you need it, technology fades away, and you can freely connect with others in a more meaningful and confident way. Founded by technology experts with decades of experience developing pioneering products and platforms and backed by some of the world's leading technology investors, Mojo believes the future is invisible. Mojo Vision is based in Saratoga, CA.