

IDG Technologies Report (US)

From Email to Virtual Reality: The Impact of Technology on Employee Experience

It takes more than vacation days and annual bonuses to attract and retain today's workforce. Nowadays, employees expect a workplace experience that's as personalized and seamless as what they encounter in day-to-day life. Whether ordering groceries online or pitching a new product via web conference, employees expect companies to invest heavily in state-of-the-art technologies that will make their jobs easier.

Yet meeting these demands can present significant challenges to IT teams and businesses alike. Many new and emerging technologies require complex integration with legacy systems. Data analytics platforms, with their vast volumes of information, can be difficult to manage. And automation can spark fears of job loss, delaying both employee buy-in – and a return on investment.

Not to mention the security, customization, and consumer privacy issues that can arise when migrating from traditional to new and emerging technologies. But their increasing impact on employee experience, and rising role in the workplace, are undeniable.

Virtual and augmented reality (VR/AR), data analytics, 3D printing, instant messaging, telepresence, DevOps – they all hold promise to increase employee productivity, reduce human errors, and accelerate sales cycles.



In fact, in today's tight labor market, new and emerging technologies may serve as a strategic advantage as organizations compete to recruit and retain the best candidates. Employees, particularly millennials, now expect unfettered access to everything from the latest devices to innovative apps such as Slack that streamline communications. Failure to deliver these modern tools may jeopardize employee morale and recruitment initiatives—and impact productivity.

In an effort to understand the impact of employee-facing technologies on employee experience, Adobe partnered with IDG in June 2018 to survey 372 respondents in IT-related roles.

This report delves into these key findings to determine how technologies, from old-standby email to futuristic VR/AR tools, are both challenging IT teams and benefiting employees.

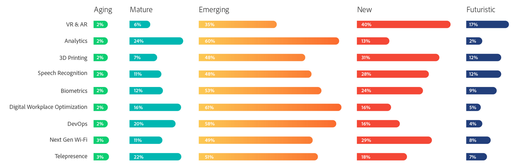
The Challenge of Change

A whopping 84% of IDG survey respondents believe improving and/or maintaining a positive employee experience will help their company grow and prosper. And 80% believe employee experience is fundamental to the success or failure of any technology implementation. Given these sentiments, it's surprising to see how many organizations struggle to drive adoption of cutting-edge tools.

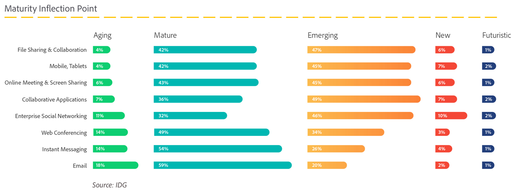
On the upside, many technologies are reaching an inflection point, evolving from new and unproven solutions into emerging workplace staples. Take, data analytics, for example. Sixty percent of respondents categorize data analytics as emerging – a proven and growing technology in terms of its usefulness to employees. That compares with just 13% of those who still see it as new and unproven. Other technologies making maturity gains include file-sharing and collaboration solutions, mobile phones, social networking platforms, and web conferencing.

US maturity ratings for employee-facing technologies

Several technologies that employees recently perceived as emerging, new, and futuristic are now considered mature staples in the workplace.



Maturity Inflection Point



Source: IDG

Despite these strides, VR and AR are still considered "futuristic" technologies among survey respondents, closely followed by 3D printing, speech- or gesture-recognition technology, real-time translation (RTT), next-generation Wi-Fi, and biometrics.

That's a shame given their potential impact on employee experience. Consider, for example, AR/VR. Once the domain of sci-fi novels, AR solutions are now being used to teach manufacturing employees how to operate machinery without the use of complex manuals. This immersive experience not only accelerates the onboarding of new recruits but encourages existing employees to expand their skills.

Speech-recognition software is another technology that promises to improve the day-to-day lives of workers. As companies become increasingly global, employees must rely on translation services to engage with foreign-based colleagues and clients. Speech recognition and RTT technology changes all that by audibly or visually translating different languages. The result is more meaningful – and uninterrupted – communication among geographically dispersed teams.

Even next-generation Wi-Fi promises faster and easier connectivity to an ever-increasing number and diversity of wireless devices.

So what's slowing widespread adoption of these cutting-edge tools? Four possible explanations emerge. These include:

1. The endurance of aging and mature technologies
2. Implementation complexities
3. Management challenges
4. Insufficient employee buy-in

Together, these explanations shed light on the challenges of replacing well-established technologies, as well as the implementation, management, and employee adoption hurdles that can stand in the way of a positive employee experience.

1. Mature technologies continue to dominate the IT landscape

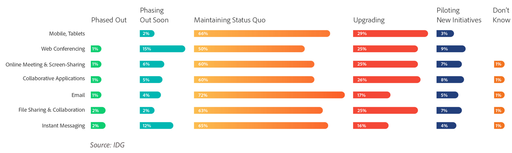
One possible explanation for an absence of widespread adoption of innovative tools is the lasting power of well-established and mature technology. Even the most

entrenched communication and collaboration technologies continue to play a key role in everyday workplace interactions. Many of these technologies continue to meet workplace standards, encouraging an "if it's not broke, don't fix it" stance among employees. For instance, more than half – 52% – of respondents continue to use traditional video or web conferencing, and 41% still rely on online meeting and screensharing solutions.

Other usage patterns may reflect the age of an older workforce that's less comfortable with emerging technology, or the fact that mandating change of any type isn't always easy, regardless of worker age. Nearly three-quarters – 72% – of organizations say their employees still rely on email, while 53% continue to use instant messaging.

Most well-established technology is here to stay

All of the aging & mature technologies project to have a healthy future in America modern business



Source: IDG

Nor are these technologies creeping any closer to the endangered species list. The majority of respondents plan to maintain the status quo when it comes to using technologies like mobile/smart phones (66%), traditional video and web conferencing (50%), online meeting and screen sharing technology (60%), and collaborative applications (60%). In fact, organizations are more likely to upgrade these technologies than phase them out completely.

Takeaway:

One way organizations can slowly ween employees off more mature technology is by piloting new and emerging technologies. Rather than outright replace aging tools with new ones, slow and steady deployments of AR equipment and 3D printing tools can help ease the transition. Involving users in the testing, selection, and deployment of solutions can also help create engaged "ambassadors" who will encourage other users.

2. Implementation hurdles are slowing adoption of emerging, new, and futuristic technology

Both new and emerging technologies come with their own set of implementation challenges, according to survey respondents. Most challenging among emerging technologies is on-demand business analytics (74%). That's because IT teams must commit significant time and resources to identifying, updating, and integrating data before deploying a solution. What's more, solutions may vary by business need; in other cases, IT is charged with integrating multiple data solutions under one enterprise-wide solution.

Upfront planning is also required as IT teams and business leaders must determine ahead of time what they need from their data, and the business value they're looking to derive. Other tough-to-implement emerging technologies include DevOps (74%), Digital Workplace Optimization (65%), and telepresence (52%). Telepresence can be particularly challenging as it requires careful integration with other collaboration platforms, as well as reliable network connectivity.

New and unproven technologies are also giving IT teams a run for their money. Nearly half (46%) of respondents cite biometrics tools as challenging to implement, as well as speech- and gesture-recognition technology (50%), telepresence (50%), 3D printing (47%), and RTT (43%).

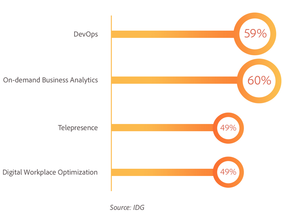
Takeaway:

One possible explanation for these implementation hurdles is that they are often completely new solutions, rather than bolt-on software or easily integrated solutions. As a result, they present a steep learning curve. Organizations can close this knowledge gap by securing the assistance of a third-party such as a systems integrator. Online courses and seminars can also help IT teams develop the expertise they need to overcome implementation hurdles and address any user concerns.

3. Managing complex technologies is a concern to businesses as these technologies can drain precious IT resources

For new and emerging technologies to deliver value, they need to be managed properly. But that's not always easy, especially for today's time- and resource-strapped IT teams. The majority of respondents (60%) cite on-demand business analytics as the most challenging emerging technology to manage.

Business Analytics and DevOps are the most difficult to manage



Source: IDG

And for good reason: by 2020 the digital universe – the data we create and copy annually – will reach 44 zettabytes, or 44 trillion gigabytes, according to market research firm IDC. Managing these bits and bytes, and parsing them into valuable insights, requires integrating, cleaning, and protecting sensitive customer information. In addition to curbing information sprawl, IT teams must ensure compliance with increasingly stringent data privacy laws.

Other tough-to-manage emerging technologies include DevOps (59%), which requires reshaping entire development processes, as well as telepresence (49%), and digital workplace optimization (49%) solutions.

Among new and unproven technologies, biometrics is widely considered (50% of respondents) the most difficult to manage. One possible explanation is that biometrics tools are often one in a suite of user identification/verification solutions used to safeguard systems, secure data, and verify identity. Updating passwords, provisioning user access, and ensuring multi-factor authentication across these disparate systems can drain precious IT resources.

Other emerging technologies that are difficult to manage include next-gen Wi-Fi (45%), 3D printing (50%), RTT (50%), and speech/gesture recognition technology (46%).

Takeaway:

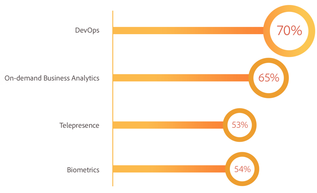
Fortunately, an IT risk management team can carefully assess the impact of emerging technologies on compliance and cybersecurity, and create a prevention plan that proactively addresses potential security threats.

4. Many respondents are struggling to achieve sufficient employee buy-in for emerging technologies

Sometimes introducing new and emerging technologies into the workplace can feel more like a cultural revolution than a digital evolution. Take DevOps, for example. Seventy-two percent of survey respondents say it's challenging to achieve acceptable employee adoption of this software development methodology. DevOps encourages automation, integration, and greater collaboration between software developers and operations teams. When it works, the result is a consistent, repeatable way for IT to better manage its production environment.

However, convincing innovative developers and practical operations people to join forces to accelerate software delivery is no easy feat. Other factors standing in the way of DevOps adoption include poor communication between these two factions and a steep learning curve. Respondents also cite on-demand business analytics (65%), biometrics (54%), and telepresence (53%) as technologies employees often struggle to embrace.

Employees hesitant on emerging technology



Source: IDG

Among new and unproven technologies, biometrics raises the most concern among respondents (54%). Whether scanning a fingertip, face, or iris, biometrics tools collect personal details about an individual, which can spark privacy concerns among employees. Other technologies that challenge organizations to achieve sufficient employee buy-in include RTT (57%), speech- and gesture-recognition technology (58%), 3D printing (41%), and next-generation Wi-Fi (32%).

Takeaway:

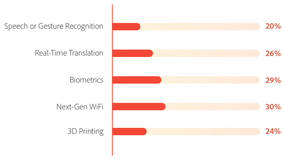
Despite these cultural hurdles, businesses can play a more active part in driving adoption of new and emerging technologies. Respondents say they rarely actively involve employee end-users in the selection process of on-demand business analytics (14%), digital workplace optimization (11%), DevOps (11%), and telepresence (10%). That's a mistake: Granting employees decision-making rights can help cultivate a greater sense of ownership among employees. Another catalyst for adoption: C-level executives who evangelize the benefits of new and unproven technologies, and actively assuage employees of their fears.

The Inevitability of New and Emerging Technologies

Despite implementation, management, and employee adoption challenges, emerging technologies are here to stay. In fact, 84% of respondents predict on-demand business analytics will become increasingly important to an organization in the next 3-5 years. Marketing teams rely on historical data to build comprehensive customer profiles. Human resources leaders use employee performance data to identify and reward star performers. And sales representatives leverage data to identify leads and generate revenue.

Another emerging technology increasing in importance is telepresence, cited by 78% of respondents. That may be because telepresence solutions allow employees to achieve better work-life balance by replacing hotel stays and long flights with innovative workspaces. Other organizations are actively researching, piloting, or producing DevOps (65%), telepresence (68%), Digital Workplace Optimization (71%), and on-demand business analytics (76%) tools.

Although they don't have as large an active footprint, new technologies are also in the works for many organizations. Among those currently being piloted:



Although adoption is slow, a number of factors are likely to drive the maturation of these tools. No longer the purview of little-known start-ups, tech titans are increasingly testing the market with innovative and experimental solutions. Take, Google, for example, which recently announced plans to roll out its RTT solution, Instant Translation, to all Google Assistant-powered headphones. The feature had long been exclusive to Google's Pixel Buds product line. Users with an Assistant-supported Bluetooth headphone can instantly translate what they hear into 40 languages.

Consumerization of IT is also pushing new and emerging technologies into the realm of inevitability. Consider, for example, mass customization with 3D printing. Popular razor brand Gillette recently piloted a new project that allows consumers to create their own 3D-printed razor handles by visiting a website and selecting from a range of 48 designs.

As big brands such as Google and Gillette delve into new technology markets, and use cases proliferate, new and emerging technologies will gain a stronger foothold in IT strategy over the next 3 to 5 years.

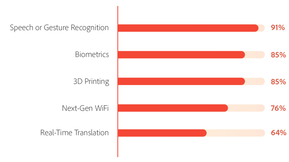
The Reshaping of Employee Experience

The good news is most survey respondents believe emerging technologies provide a positive employee experience. Case in point: DevOps, which 77% of respondents say contributes to a good or very good employee experience.

These days, developers are under unprecedented pressure to churn out code and unleash new software products with the speed and agility of a Silicon Valley giant. But frequent releases can create complex and unwieldly production environments. DevOps can ease the burden on employees by allowing them to accelerate the software delivery lifecycle without adding layers of complexity to the infrastructure.

Another three-quarters (77%) of respondents recognize Digital Workplace Optimization (77%) as a morale-boosting emerging technology. These tools let employees take advantage of e-learning modules, gain remote access to corporate systems, team up with co-workers using collaboration platforms, and take a mobile-first approach to workflows. Other favorable employee solutions include on-demand business analytics (76%) and telepresence (74%).

At the same time, investments in new and unproven technologies promise to greatly appreciate in the near future. Even email, which is often seen as being past its prime, is projected to become more valuable. Among those technologies that will increase in importance and encourage greater investment:



Certainly, many of these present implementation, management, and employee adoption challenges. But overcoming them will shape a more positive experience for employees.

Interestingly, only VR/AR technologies are considered futuristic among today's firms with 28% of respondents actively researching such tools, and a scant 26% piloting new initiatives. But that hasn't stopped respondents from recognizing their power to please workers. In fact, organizations predict futuristic technology will have a significant impact on employees over the next ten years in the primary areas of collaboration, access to information, user experience, and productivity.

When betting on a futuristic technology, most respondents would wager on VR/AR (18%), likely due to its ability to make global businesses feel more intimate. VR/AR is closely followed by speech/gesture recognition tools (14%), next-generation Wi-Fi (12%), and RTT tools (12%). Yet there's still plenty of progress to be made. Even the coolest features can't save a poorly designed VR/AR headset.

Fortunately, well-known vendors such as Apple and Microsoft are contributing to a growing ecosystem of VR/AR technologies that will eventually support widespread adoption among employees.

A Look to the Future

These days, employees' experience of technology can make or break an organization. Solutions that support collaboration, allow for better work-life balance, and eliminate mundane tasks can inspire employees to work harder and be happier. On the flipside, failure to provide employees with satisfactory workplace experiences can negatively impact everything from productivity levels to employee retention rates.

All of which presents IT teams with a unique challenge: how to embrace new and emerging technologies while overcoming significant IT hurdles. Implementation complexities can prevent companies from realizing a speedy return on their technology investment. Unwieldly data can make it difficult for IT teams to manage data analytics systems. And steep learning curves can jeopardize employee adoption of more innovative tools.

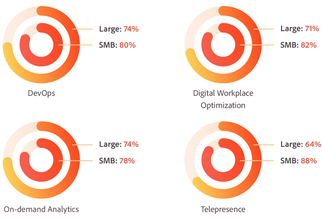
The upside: most survey respondents believe emerging technologies provide a positive employee experience. At the same time, many are slowly recognizing the potential of futuristic tools, such as AR/VR, to support collaboration, widen access to information, improve employee experience, and boost productivity.

Certainly, corporate staples like email and messaging apps will continue to dominate office desktops and populate mobile phones. But as an increasing number of employees demand experiences that reflect those of their day-to-day lives, organizations will continue to accept the challenge of technology change.

Sizing Up Employee Experience

Does size matter? Not when it comes to how employees experience most of today's technologies. According to an IDG/Adobe survey, the views of larger and smaller U.S. enterprises on tech maturity are closely aligned. At the same time, employee experience ratings are typically the same regardless of company size.

Employee experience ratings for emerging technologies



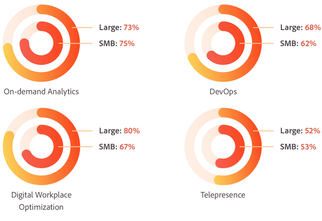
Source: IDG

The only exception is telepresence, which spikes in popularity among small to medium-sized businesses. Organizations of all sizes can benefit from telepresence and its ability to show the facial expressions and body language of its participants. But its ability to reduce travel expenses and connect geographically dispersed users in real-time levels the playing field for growing businesses with limited expense accounts.

Another reason for telepresence's popularity among small businesses: remote workers. According to a recent Gallup poll, 43% of employed Americans log at least some out-of-office, on-the-clock time. And 31% of those who work remotely at least some of the time spend four or five days a week out of the office. These conditions are ideal for millennials, many of whom prefer the flexible work arrangements supported by nascent companies.

When it comes to implementation, though, companies of all sizes face challenges, as well as difficulties gaining adoption of emerging technologies. However, business analytics is more difficult to manage for larger enterprises, likely due to vast volumes of data and integration headaches caused by legacy systems.

Emerging technologies most difficult to implement



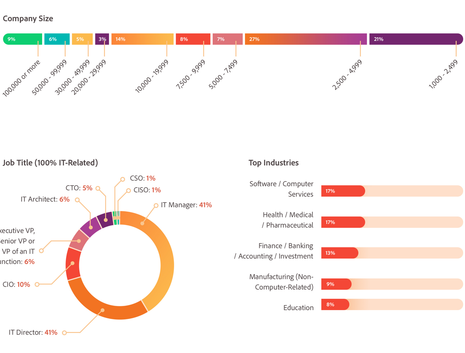
Source: IDG

Regardless of these challenges, telepresence and DevOps look to be key for smaller firms in the near future – proof that overcoming the challenges of implementation, management, and employee adoption are in the best interest of companies of all sizes.

About the Survey

This survey was fielded in the U.S, from May 22 through June 12, 2018, and includes responses from 372 qualified respondents. To qualify for this survey, respondents were required to work in a IT-related function at the Manager-level or above for an organization with 1,000+ employees.

US respondent profile:



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