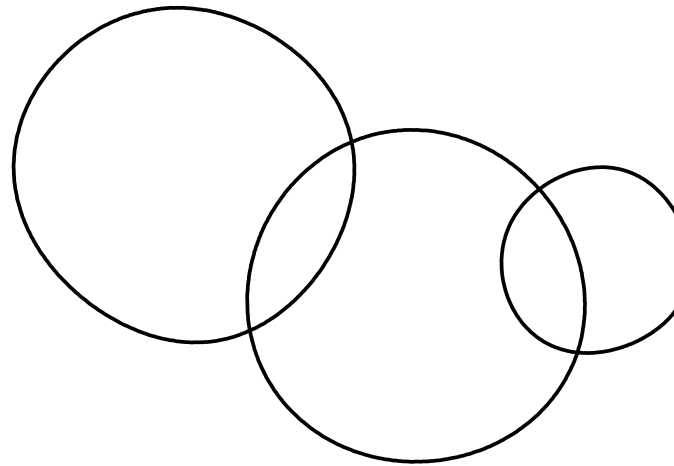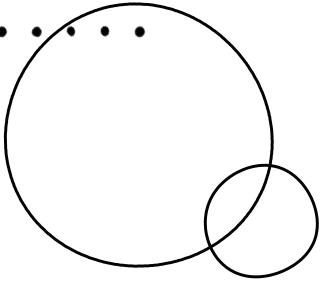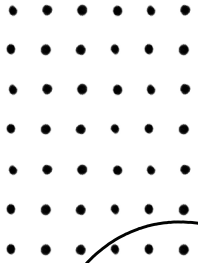2019
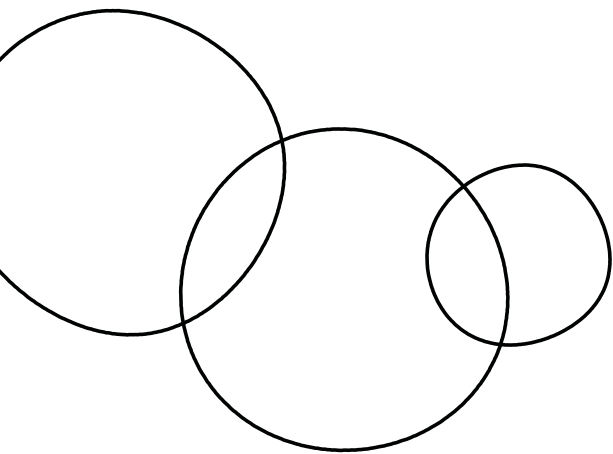
BUSINESSES@WORK

okta

## INTRODUCTION

Welcome to the fifth Businesses @ Work report, an in-depth look into how organizations and people work today—exploring workforces and customers, and the applications and services they use to be productive.

Technology portfolios are like fingerprints: no two organizations use the exact same apps and services the same way. Data from the Okta Integration Network—which includes over 5,500 integrations with cloud, mobile and web apps, and IT infrastructure providers—shows that companies around the world are choosing technologies that prioritize interoperability, automation, and offer a broad range of functionality. What stands out this year? The fastest-of-the-fastest growing apps focus on identity-driven security, indicating that companies are taking Zero Trust seriously. We also see the impressive power of network effects, how the most popular apps keep growing, and dive into how workers feel about them. At the same time, like modern-day Darwins, we're watching evolution before our eyes, seeing companies connect "cloud-to-ground," continuing to protect on-premises infrastructure even as they move to the cloud.
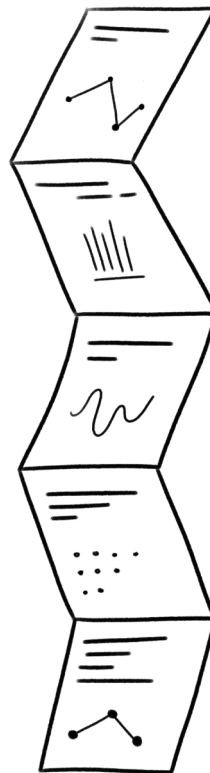
How Did Okta Create This Report?

To create all our Businesses @ Work reports, we anonymize Okta customer data from our network of thousands of companies, applications, and IT infrastructure integrations, and millions of daily authentications and verifications from countries around the world. Our customers and their employees, contractors, partners, and customers use Okta to log in to devices, apps and services, and leverage security features to protect their sensitive data. Our customers span every major industry and vary in size, from small businesses to enterprises with hundreds of thousands of employees or millions of customers. As you read this

report, keep in mind that this data is representative of Okta's customers, the applications we connect to, and the ways in which users access these applications through our service.

We have worked carefully to standardize our data. Unless otherwise noted, this report presents and analyzes data from November 1, 2017 to October 31, 2018, which we refer to as "this year," "today," and "in 2018." Similarly, when we refer to "last year" or "in 2017," we are referring to data from November 1, 2016 to October 31, 2017. "2016" refers to the same period in its respective year.

This year, in addition to reporting on popular apps and systems across Okta's network, we also added the results of a survey of knowledge workers about their workplace preferences, which adds further insight to our proprietary findings. Commissioned by Okta, Qualtrics conducted a survey of over 1,200 U.S. knowledge workers from companies of various sizes, across many industries. Responses were collected in December 2018 and January 2019. We refer to this survey of knowledge workers as "our survey" and "survey," and refer to the workers who responded as "survey respondents."
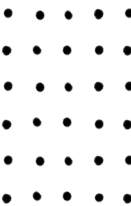
SUMMARY OF KEY FINDINGS

The Most Popular Apps of 2018

Office 365 increased its lead and continues to dominate the total pool of apps by number of customers, and it's growing its active unique users by 55% year over year. While G Suite's user base is growing more quickly than Office 365's, at 116% year over year, our survey found that 67% of survey respondents still prefer Microsoft Word over Google Docs. Slack took a step up the rankings, measured by both number of customers and active unique users. And Zoom is the only app to appear on both the most popular and the fastest growing apps list, but our survey shows that Zoom still has a lot of market share to win. We also see Workday and ServiceNow rank as the #2 and #3 most popular apps by active users, while ServiceNow took the 15th spot of the most popular apps by number of customers.

The Fastest Growing Apps

User-focused security apps dominate the fastest growing apps with KnowBe4, LastPass, and Proofpoint in the top three spots. KnowBe4 in particular is fulfilling a clear market need: less than half of survey respondents have ever participated in a cybersecurity training at work. We also looked at customers with complex hybrid IT environments to see how they integrate with application and security network vendors

to allow end users access across cloud and on-prem apps. We discovered that a growing number of Okta customers are integrating with networking systems. The most popular choice is Palo Alto Networks, which surpassed Citrix this past year. And looking across the pond, the fastest-growing app with a European HQ is Mimecast.

Companies Have a Growing App-etite

There's a clear trend that larger companies are deploying more apps over time. Large companies (2,000 or more employees) who have been with Okta for three years are deploying 163 apps on average. And in the past four years, large customers have increased their number of deployed apps by 68%.

We also looked at whether companies who invest in the Office 365 suite—the top app in our network—end up committing to a Microsoft-only environment, and the answer was clearly "no." We found that 76% of Okta's Office 365 customers have one or more apps that are duplicative of apps offered by Microsoft. Over 28% are chatting on Slack. Nearly 24% are connecting with their colleagues on Zoom. And over 28% of Okta's Office 365 customers are "double bundling" themselves, subscribing

to G Suite as well. Looking at the total number of customers who leverage Okta for workforce identity, we are seeing a smaller percentage of customers with Active Directory (AD) integrated into Okta, from a high of over 78% in August 2015 to 70% in 2018.

Also noteworthy, companies investing in developer tools are three times as likely to deploy G Suite as are "non-developers" (companies without any developer tools). Our data shows that 46% of companies with at least one developer tool also have G Suite, vs. only 17% of non-developers.

The More Factors the Merrier... and More Secure

Nearly 40% of survey respondents told us they reuse the same 2-4 passwords for almost everything, and 10% reported using just one password. So it's a good thing more companies are turning to MFA to protect against costly breaches. Most companies—70%, in fact—are using two to four different factors, up from 65% last year. And 29% of companies are using four or more factors. Individuals are starting to apply this best practice to their personal lives as well: 26% of survey respondents have set MFA up themselves, and another 38% reported using it at work. We also see a slow but steady shift toward more secure factors (app generated codes, push authentication, and physical keys) and away from lower assurance factors like SMS and security questions. The two most commonly used factors are Okta Verify (a mobile app-based factor) and SMS. The number of customers with Okta Verify has increased over the past three years, whereas the number of customers with SMS has dropped.

When we look at organizations that at first adopt less secure factors, such as SMS or security questions, we see many eventually up their game by adding more secure factors, such as a mobile app like Okta Verify, Google Authenticator or Duo, or token-based YubiKey. Over two-thirds of the Okta customers who enrolled since 2016 with less secure factors added more secure factors within two years. After two years, 71% of customers had added Okta Verify and 44% had added Google Authenticator, while 15% had added YubiKey and 5% had added Duo.

More Companies Are Mastering HR

Companies are leveraging their HR systems in new ways, and investing in up-and-coming tools. Three of the top 10 apps by number of users are HR-related, with HR systems Workday

and SAP SuccessFactors at #2 and #8 respectively. Namely claims the fastest growth by number of customers, with 67% year over year, closely followed by BambooHR at 51% and UltiPro at 50%. Chart-topping Workday has the fifth fastest growth with 28% year over year.

Welcome to the Planet of the Apps

This year we broke out our travel app data into three categories: hotels and lodging, air travel, and ground transportation. In the past year, we've seen Airbnb climb from #4 to #2 in the most popular hotel and lodging apps. For the more traditional hotel experience, the Starwood Hotels group (which includes the Westin, Sheraton, and W Hotels) and Marriott lead the pack. Southwest flew into the #1 spot over two years ago and continues to gain altitude. Uber has held the top spot in the ground transportation app race for the past year, and continues to grow.

We've seen big shifts in personal banking and finance, news, healthcare, and project management, as well. The Wall Street Journal surpassed CNN as the most popular app for Okta customers, and The New York Times had a burst of growth that moved it into second place. PayPal use seemed to be leveling off in 2017, but a jump in use in 2018 kept the online payment company at the top of the stack. In healthcare, Teladoc rose from the bottom of the list, shooting up 280% in the past two years to blow past household-name providers such as Aetna, Cigna, and UnitedHealthcare. And in the project management space, Trello has grown 119% over the past two years.
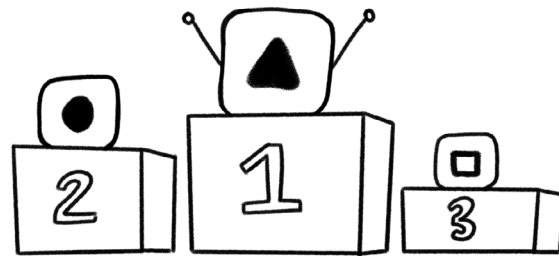
People @ Work

In addition to reporting on the popular apps and services across Okta's network, we wanted to know how average office employees approach their work weeks and the ways technology has changed how they work. To find out, we surveyed over 1,200 knowledge workers in various industries across the United States about their preferred work tools, ideal office environment, and even work-from-home wardrobe selections. The results show that remote work is a popular preference, video conferencing is (still) uncomfortable, there's a divide on pet-friendly and pet-free offices, and no one is exactly rooting for open floor plans. We also found that 53% of survey respondents like their job and 16% love their job—showing that no matter their work preferences, today's employees are figuring out how to work happy.

THE MOST POPULAR APPS

THE ENVELOPE, PLEASE...

This year, we looked at app popularity two different ways: first, by number of customers with the app deployed, and second by the number of active unique users, defined as users who have logged into the app via Okta at least one time in the past 30 days. We focus on the top 15 apps in each category.

Most Popular Apps by Number of Customers
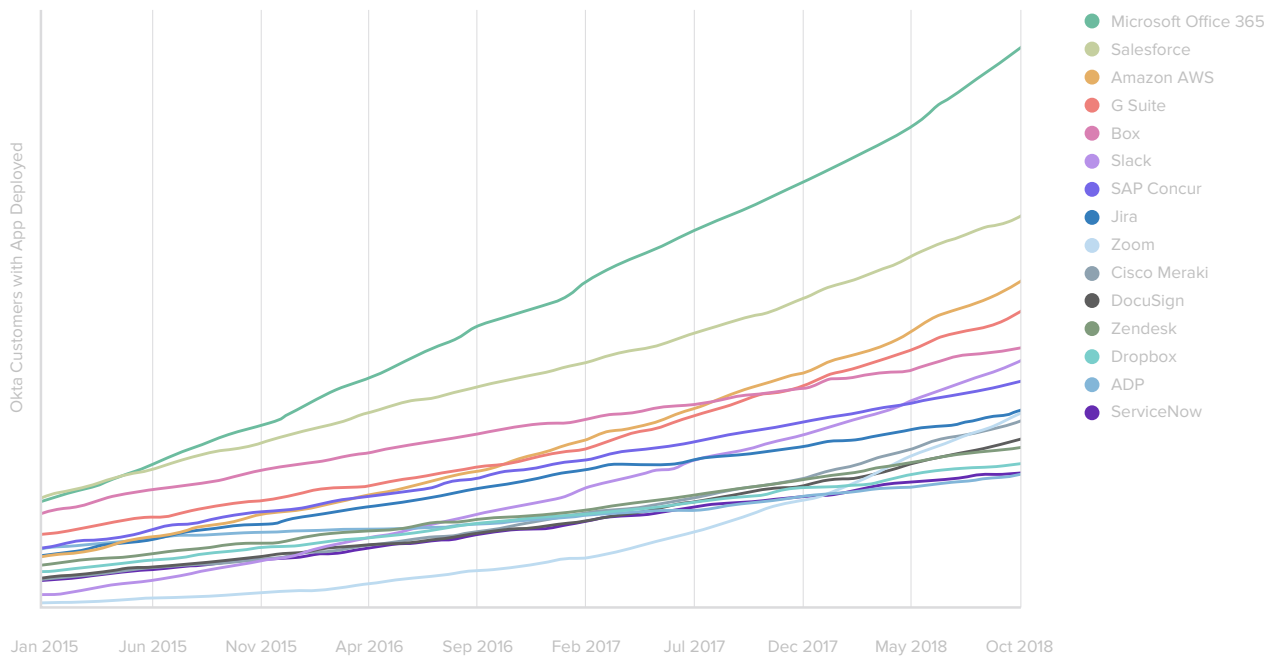
Everyone loves a classic rivalry. Coke vs. Pepsi. Ford vs. General Motors. Dogs vs. cats. And of course, Microsoft vs. Google. The data shows both companies' email and collaboration tools are thriving overall. Office 365 increased its lead and continues to dominate the total pool of apps when viewed both by customers and active users. Office 365 can claim nearly twice as many customers as G Suite, but G Suite's user base is growing more quickly. Active unique users have grown 116% year over year, compared to Office 365's growth of 55%.

Since we first began ranking popular apps by number of customers, we've noticed a few honorees come and go. GoDaddy, LinkedIn, Twitter, and GoToMeeting, originally in the top 15, have left the party, while Office 365 has continued to hold the top spot.

Microsoft has long established itself as a workplace necessity, and thus has its fair share of loyal users. Our survey found that 67% of knowledge workers prefer Microsoft Word over Google Docs, while only 15% report the opposite. When it comes to email, 49% prefer Microsoft Outlook over Gmail, while 35% report the opposite.

But G Suite has the broader greenfield. Nearly half (49%) of our survey respondents have never used Google Docs. We expect that this number may decrease as G Suite's rapid growth continues, due in part to employee demands. Gmail is the number one app knowledge workers wish their company would adopt.

This year, video conferencing favorite Zoom appeared on the list for the first time, in 9th position. One of the most interesting findings of the year, Zoom is the only app this year to show up on both the most popular and fastest growing apps. And Slack took a step up in the rankings, measured by both number of customers and active users. With rumors of pending IPOs for both companies, Our data paints a particularly rosy picture of both apps' growth.

Slack and Zoom's tremendous growth becomes even more impressive when you consider their continued growth potential. According to our survey results, only 16% of knowledge workers have heard of Slack and half of those that heard of it have used it before. Zoom is slightly ahead, with 19% of respondents aware of the app and 9% reporting that they have used it. These numbers may seem small, but when you consider there are more than 60 million knowledge workers in the U.S. alone, that's quite a dent.[1]

Survey Insights: Video Conference App Experience
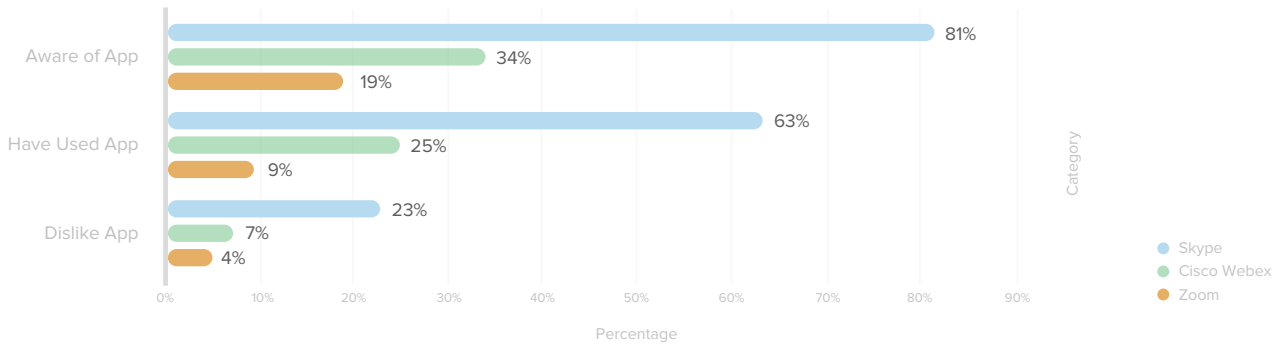
Incumbents in the video conferencing space have put up a tough fight. (Sound familiar?) Our survey results found that 63% of knowledge workers have used Skype before, and 25% have used Cisco Webex, which takes the 11th spot on our list of most popular apps by monthly active users.

Zoom has disrupted video conferencing by offering a compelling user interface and experience, but it's not always sunny in its field. Survey respondents identify Skype as their least favorite and most stressful app out of the entire list. Webex and Zoom both enjoy having fewer detractors among our survey respondents, with 7% of respondents disliking Webex, and only 4% reporting that they dislike Zoom.

Most Popular Apps by Number of Monthly Active Unique Users
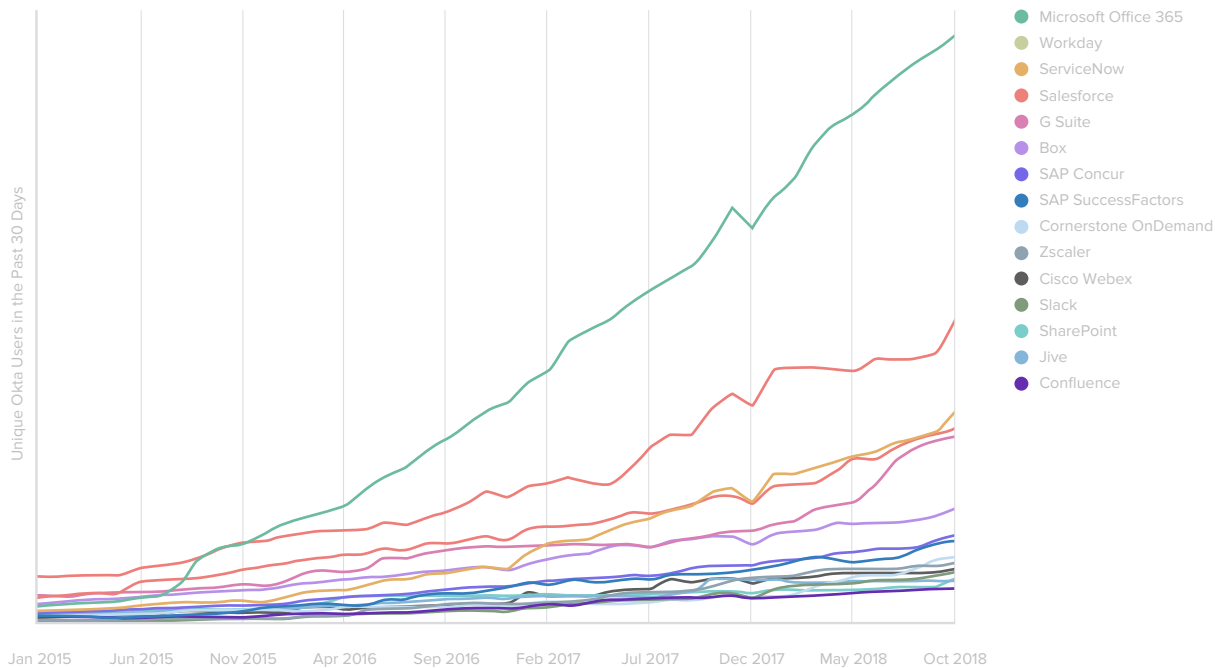
Some apps rank much higher when looking at active unique users than when looking at number of customers. For the second year in a row, wall-to-wall business apps, Workday and ServiceNow, rank as the #2 and #3 most popular apps by active users, while ServiceNow slid into the 15th spot of the most popular apps by number of customers. On the flip side, Zoom ranks #9 in number of customers but does not appear in the top 15 ranking by number of active unique users.

1. The Wall Street Journal, "The Rise of Knowledge Workers Is Accelerating Despite the Threat of Automation," May 4, 2016.
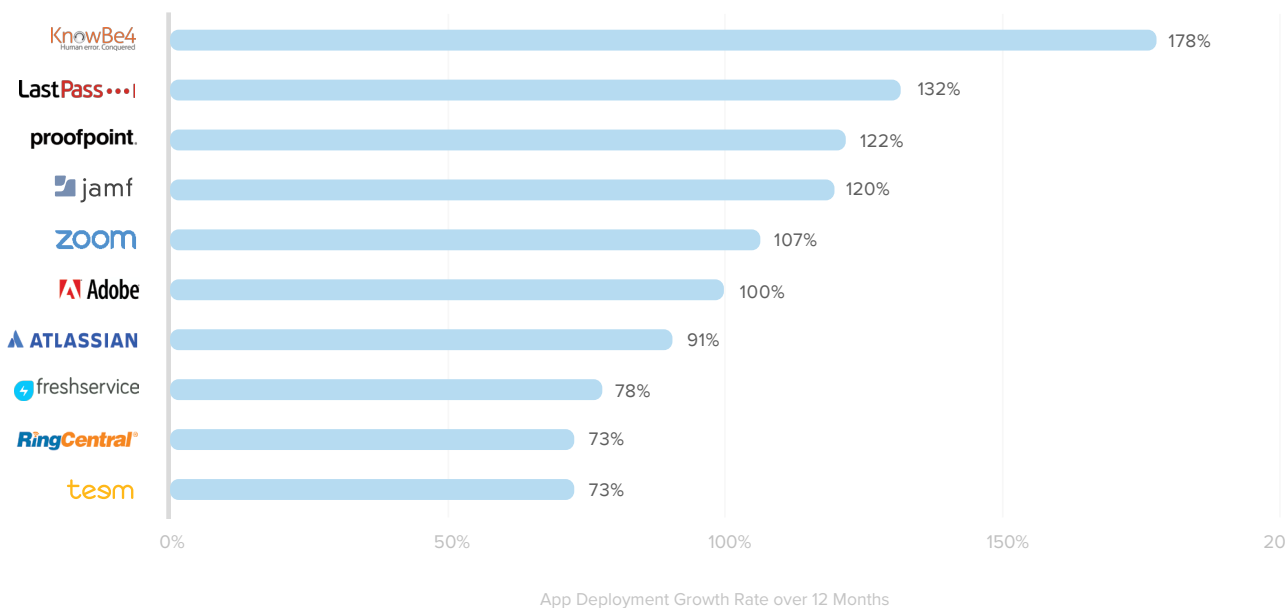
THE FASTEST GROWING APPS

DON'T TRUST, VERIFY! THE FASTEST GROWING APPS ARE SECURITY TOOLS

We noticed impressive growth in company investments in security tools. Why? Increased attack sophistication and insider threats mean that not everything or everyone inside a network can be trusted. With the new Zero Trust framework, organizations are shifting the focus of modern security away from traditional network strategies to perimeter-less approaches, focusing on users, data, and locations. People (and their identities) are at the center of this framework— and organizations are looking for tools to help protect those valuable credentials.
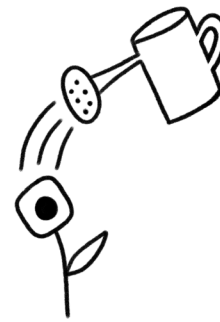
Regulation may also be contributing to the growth of security-focused apps. The General Data Protection Regulation (GDPR),[3] designed to strengthen and unify data privacy laws across Europe, went into effect in May 2018, with the threat of heavy fines for non-compliance, and the California Consumer Privacy Act, which regulates the personal data of residents of the most populous state in the U.S., is slated to take effect in January 2020.[4]

Fastest Growing Apps

App	Growth
KnowBe4	178%
LastPass	132%
proofpoint	122%
jamf	120%
zoom	107%
Adobe	100%
ATLASSIAN	91%
freshservice	78%
RingCentral	73%
team	73%

App Deployment Growth Rate over 12 Months

User-focused security apps dominate the fastest growing apps with KnowBe4, LastPass, and Proofpoint in the top three spots. KnowBe4, a security awareness training company, beat out other apps by far with its 178% year-over-year growth to claim the top spot. KnowBe4's rapid growth may be due to its fulfillment of a clear market need: an industry report

found that nearly half of data breaches are due to employee error, yet only 49% of our survey respondents have ever participated in cybersecurity training at work.[5] The adoption of LastPass, which stores encrypted passwords online, and Proofpoint, an email security and security awareness training provider, each grew over 100%.

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3. European Commission, "2018 Reform of EU Data Protection Rules".
4. Harvard Business Review, "What You Need to Know about California's New Data Privacy Law," July 11, 2018.
5. CNBC, "The Biggest Cybersecurity Risk to US Businesses is Employee Negligence, Study Says," June 21, 2018.

Fastest Growing Apps with European HQ
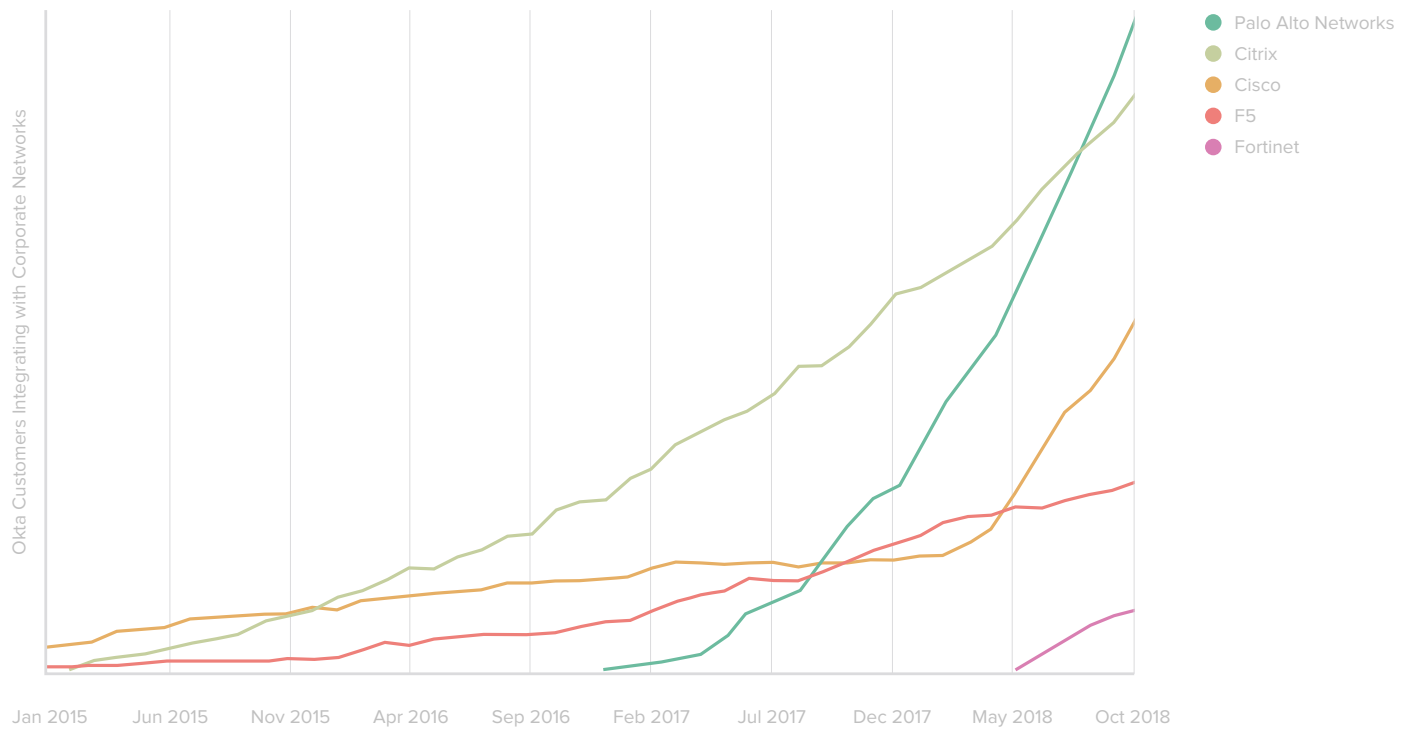

mimecast 63%
SOPHOS 42%
TeamViewer 22%
pingdom 17%

0% 25% 50% 75% 100%

App Deployment Growth Rate over 12 Months
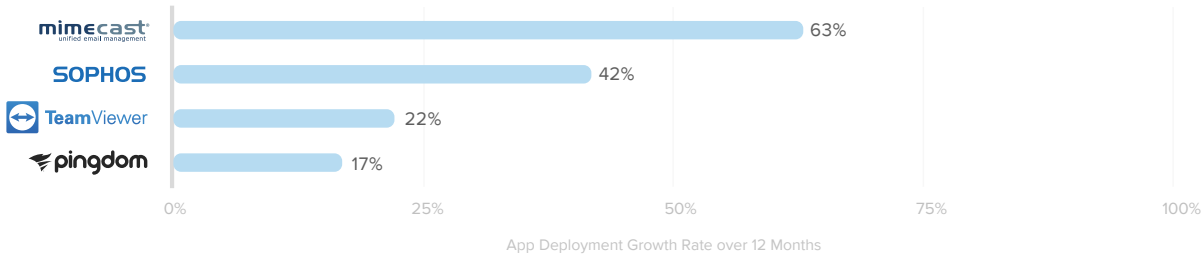
Not only are we seeing innovation coming from cloud apps headquartered in the U.S., we're consistently seeing it in Europe as well. We took a look at the popularity of apps that have corporate headquarters based in Europe, and the fastest

growing app is Mimecast. British security company Sophos, German-based TeamViewer, and Swedish Pingdom round out the list.

Most Popular Systems Used by Customers with Hybrid IT Integrations

- ● Palo Alto Networks
- ● Citrix
- ● Cisco
- ● F5
- ● Fortinet

Okta Customers Integrating with Corporate Networks

Jan 2015   Jun 2015   Nov 2015   Apr 2016   Sep 2016   Feb 2017   Jul 2017   Dec 2017   May 2018   Oct 2018

Note: Of our customers integrating Okta directly with corporate networks, these are the systems they have deployed. Some customers may deploy more than one vendor.

In addition to looking at the growth of apps across our network, we were curious to see how customers are integrating with other IT systems. We know customers with complex hybrid IT environments integrate with application and security network vendors to allow end users access across cloud and on-prem

apps. We discovered that a growing number of Okta customers are integrating with networking systems. The most popular choice is Palo Alto Networks, which surpassed Citrix this past year. Cisco has also seen strong growth, passing F5.

COMPANIES HAVE A GROWING APP-ETITE
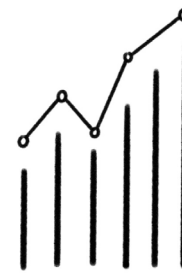
**ANY WAY YOU SLICE IT, APP USE KEEPS GROWING OVER TIME**

Companies of every size and across all industries find more and more apps "app-ealing": there's a clear trend that companies are deploying more apps over time. This year we looked at the average number of apps two ways: first, year-over-year growth, and second, growth across the customer's relationship with

Okta. We broke out our data by large companies (2,000 or more employees) and small/mid-sized companies (under 2,000 employees). From every angle, we saw companies deploying more apps than they did in previous years.

Average Number of Apps per Customer

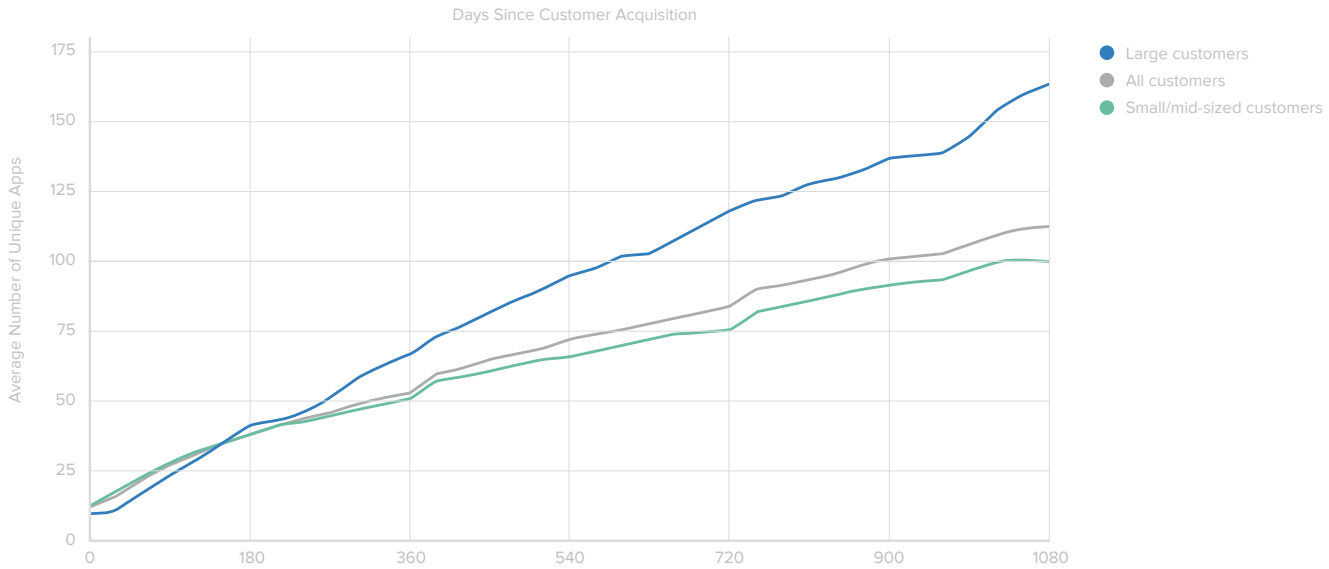| Year	Value
2015	58
2016	72
2017	77
2018	83
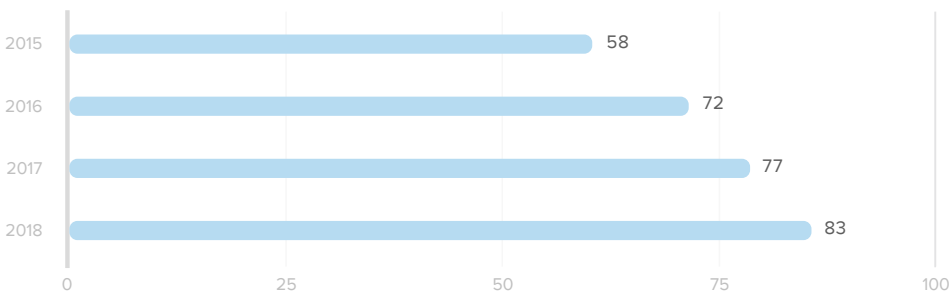
Note: Data includes Okta Integration Network (OIN) and non-OIN, personal and corporate apps.
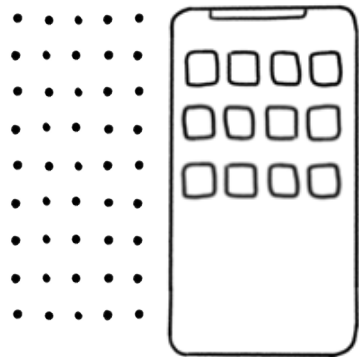
DID YOU KNOW?

Since 2015, the average number of apps per company has grown by 43%. We see an 8% jump from 2017. Another fun fact: over 9% of customers have more than 200 apps.

Average Number of Apps over the First Three Years of a Customer Lifetime, by Customer Size

Days Since Customer Acquisition

- Large customers
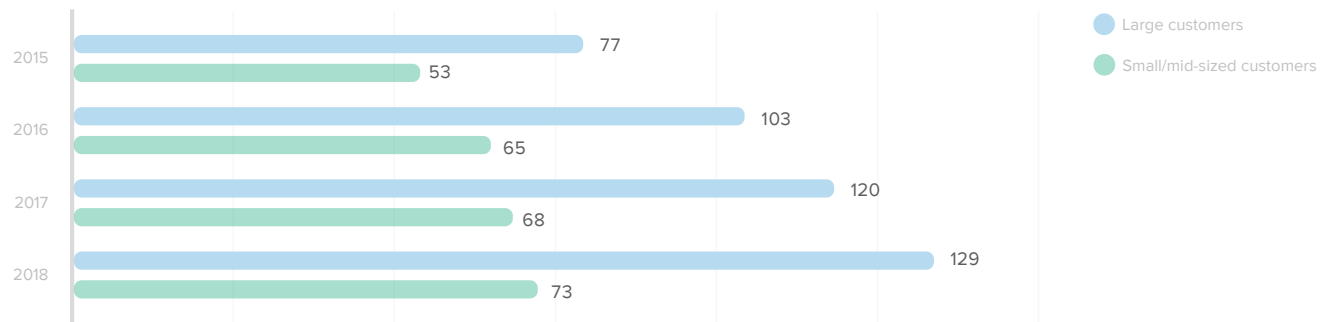- All customers
- Small/mid-sized customers

Note: Data includes Okta Integration Network (OIN) and non-OIN, personal and corporate apps deployed. Large customers are defined as those with 2,000 or more employees. Small/mid-sized customers have fewer than 2,000 employees.

The longer a company has been an Okta customer, the more apps they tend to deploy. Looking at the total number of apps, companies who have been with Okta for one year have on average 52 apps, while at the three-year mark, they average 112 apps—115% growth over two years.

We were interested to see how the number of apps deployed by large companies compares with their smaller counterparts.

We found that large companies started their journey with a lower average than small/mid-sized companies, but caught up in under six months, then quickly surpassed the adoption average of smaller companies. Three years out, larger companies are deploying 163 apps on average, whereas smaller companies deploy an average of 99.

Average Number of Apps per Customer, by Customer Size

- Large customers
- Small/mid-sized customers

Note: Data includes Okta Integration Network (OIN) and non-OIN, personal and corporate app usage. Large customers are defined as those with 2,000 or more employees. Small/mid-sized customers have fewer than 2,000 employees.

And what about year-over-year growth? In the past four years, large customers have increased app deployment by 68%, now averaging 129 apps per customer in 2018. Small to mid-sized companies have also dialed up their app deployment at a 38% growth rate, now averaging 73 apps per customer.

GET A DOUBLE STROLLER: OFFICE 365 DOESN'T ROLL ALONE

When companies adopt their little bundles of joy (we're talking about bundles of business productivity applications, of course), they may gaze adoringly at their screens for a few moments before shaking their heads and realizing, "This just isn't cutting it." So, they expand their "family" with standalone, best-of-breed apps that address their unique needs, or even (gasp), additional bundles.

Popular office suite bundles from the software juggernauts generally include tools for personal productivity,

communication, collaboration, and content management. Choosing a bundled service historically meant organizations sacrificed best-of-breed functionality and the ability to integrate well with unbundled alternatives for a lower price. Not surprisingly, as some of the most cloud-forward organizations, our customers are no longer willing to make that sacrifice. When we looked at whether companies who invest in the Office 365 suite—the top app in our network— end up committing to a Microsoft-only environment, the answer was clearly "no."
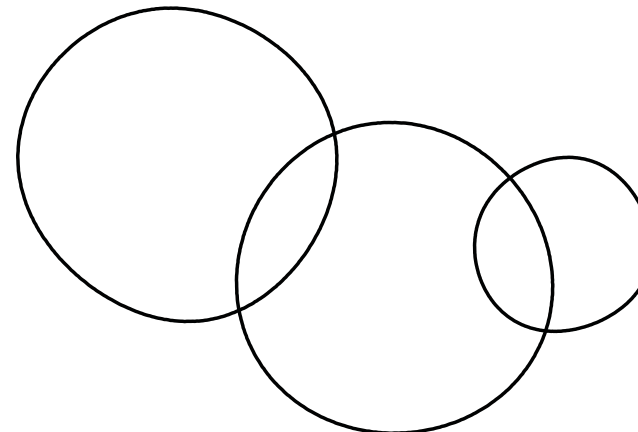
Percentage of Okta's Office 365 Customers with Best-of-Breed Apps over Time

Percentage of Okta Office 365 Customers with App

Snapshot Date: ● 10/31/2015 ● 10/31/2016 ● 10/31/2017 ● 10/31/2018
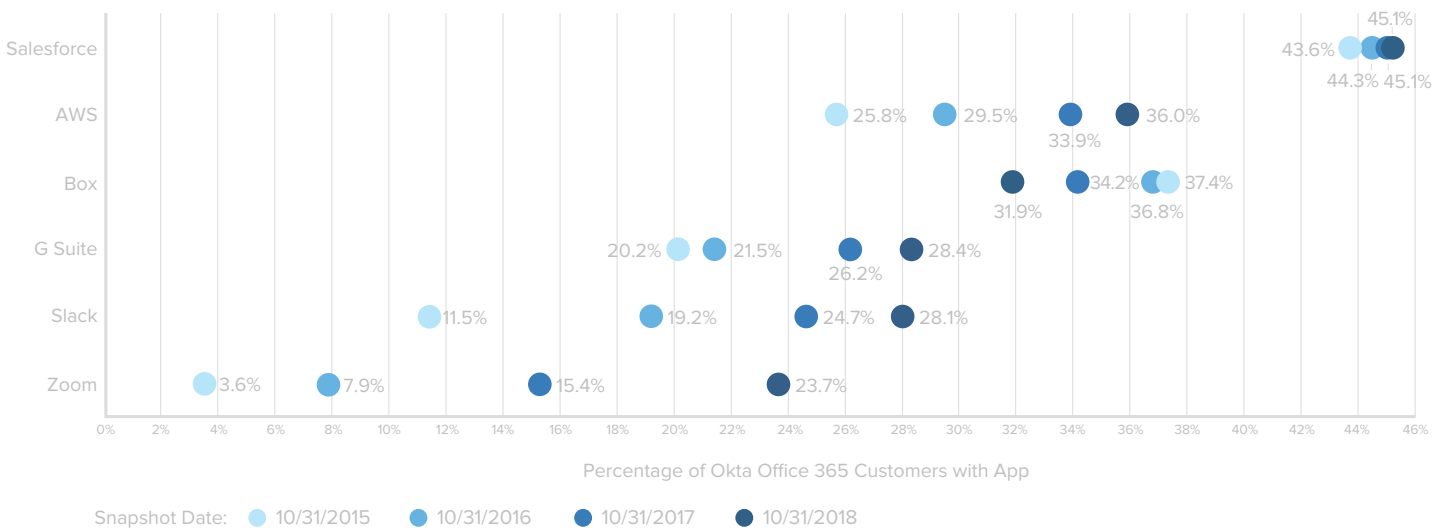
How do we define "best-of-breed"? Best-of-breed apps excel at performing specialized functions, whether or not they are part of an integrated system. We look to our rankings for most popular apps by number of customers and see that Salesforce, AWS, Box, Slack, and Zoom, each representing a different product category, are some of the most popular stand-alone apps, gaining our "best-of-breed" designation.

We studied our Office 365 customers to see what other apps they are using. We found that 76% have one or more apps that duplicative of apps offered by Microsoft. Over 45% have Salesforce, and 36% are using AWS. Nearly 32% are storing

files on Box. Over 28% are chatting on Slack. Nearly 24% are connecting with their colleagues on Zoom. Finally, we found that over 28% of Okta's Office 365 customers are "double bundling" themselves, subscribing to G Suite as well. It's clear that these customers are not buying into becoming full "Microsoft shops."

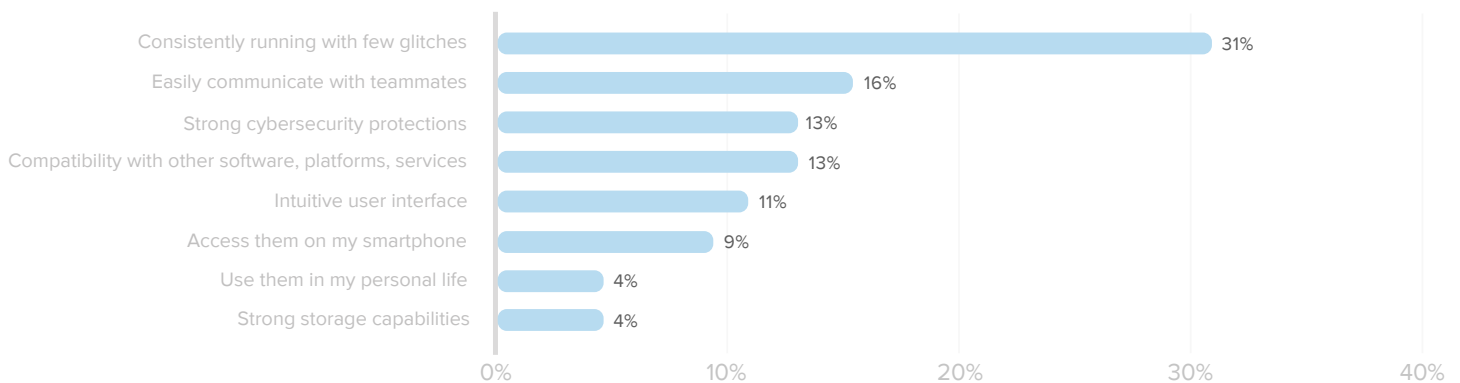## Overlap of Okta Customers with Office 365 and Best-of-Breed Apps

Percentage of Okta's Office 365 Customers

Legend	
●	0
●	1
●	2
●	3
●	4
●	5
●	6

10/31/2015: 29.5%, 31.1%, 18.7%, 11.8%, 6.7%, 2.1%, 0.1%

10/31/2016: 27.9%, 27.2%, 19.6%, 13.1%, 8.2%, 3.6%, 0.5%

10/31/2017: 25.6%, 25.0%, 18.4%, 14.7%, 9.4%, 5.5%, 1.4%

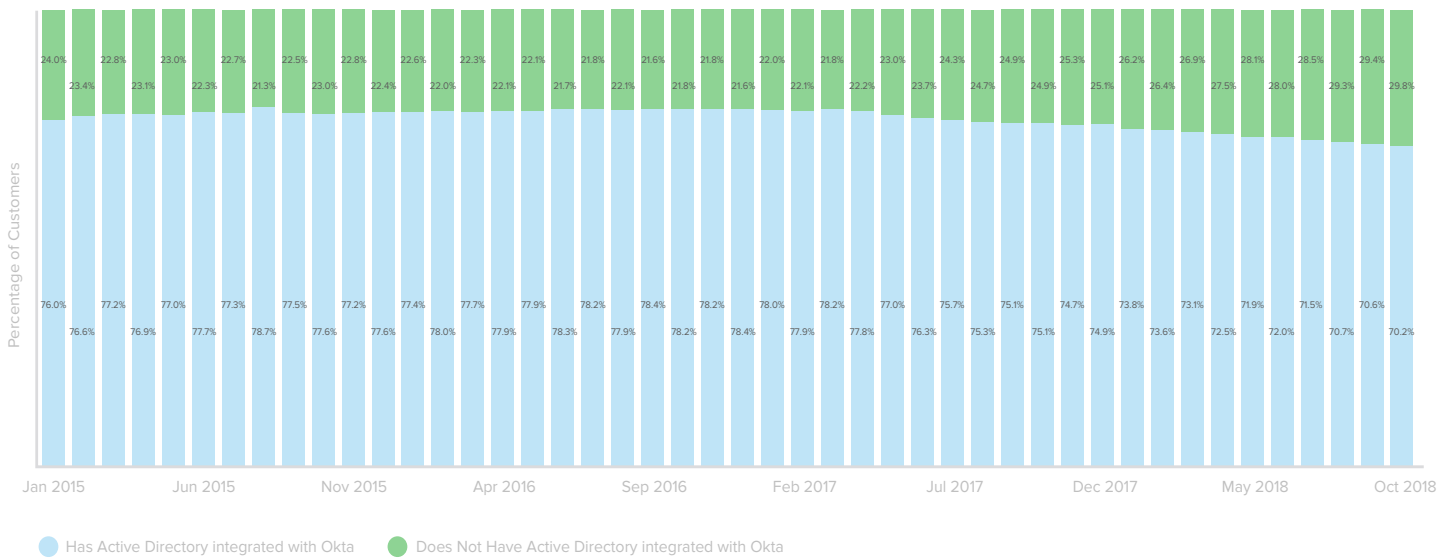**10/31/2018:** 23.8%, 23.2%, 19.7%, 13.7%, 10.9%, 6.2%, 2.4%
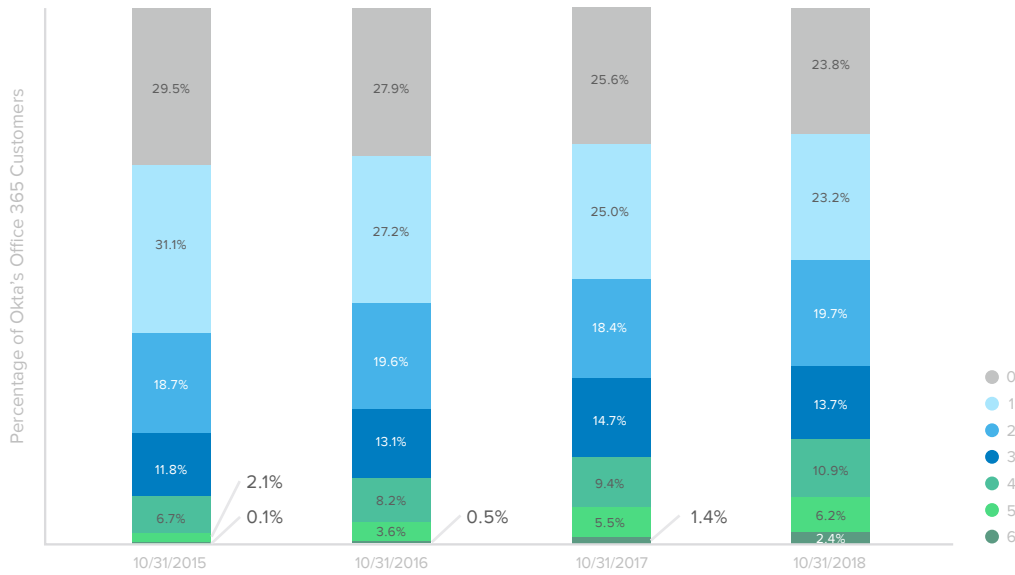
The number of Okta's Office 365 customers who are also choosing to deploy best-of-breed apps is growing steadily over time. In 2015, only 21% of companies were deploying three to six of our top stand-alone apps in addition to Office 365, but in 2018 that number grew to 33%. In 2018, three quarters of all Okta's Office 365 customers were subscribed to at least one best-of-breed app.

Best-of-breed apps also tend to be people-pleasers. Our survey asked knowledge workers what they care about the most when it comes to work apps, and ease of use was the overarching theme.

Survey Insights: What Knowledge Workers Want in the App Experience

Consistently running with few glitches	31%
Easily communicate with teammates	16%
Strong cybersecurity protections	13%
Compatibility with other software, platforms, services	13%
Intuitive user interface	11%
Access them on my smartphone	9%
Use them in my personal life	4%
Strong storage capabilities	4%

0%   10%   20%   30%   40%

Percentage of Customers with Active Directory Integrated with Okta

Microsoft's Active Directory, or "AD" for short, has been the preferred on-prem directory services platform in most IT organizations for nearly twenty years. (Back in 2014, it was reported that 95% of the Fortune 500 used AD.[6]) But as IT networks evolve and move to the cloud, AD might not be right for everyone. Looking at customers who leverage Okta for workforce identity, we are seeing a smaller percentage of customers with AD integrated into Okta, from a high of over 78% in August 2015 to 70% in 2018.
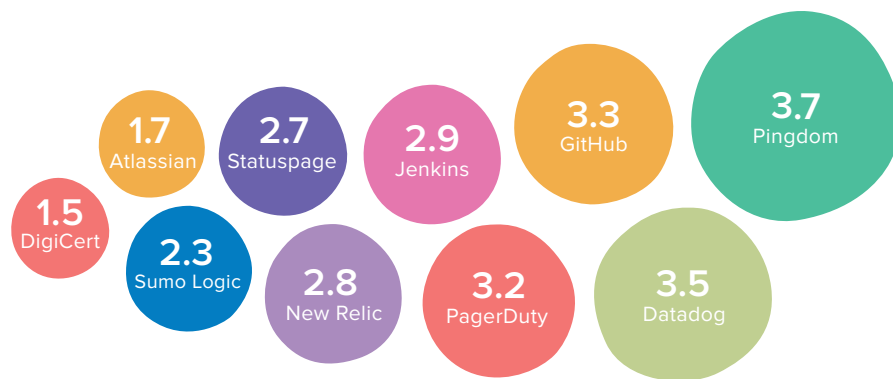
DEVELOPERS FLY WITH A G SUITE FLOCK

We also looked at correlations in our user base to see if there were any notable trends. One caught our eye: the link between developers and G Suite.

Companies with G Suite Are More Likely to Be Developer-Centric

G Suite

Number of times more likely G Suite customers will have these developer tools

1.5 DigiCert
1.7 Atlassian
2.3 Sumo Logic
2.7 Statuspage
2.8 New Relic
2.9 Jenkins
3.2 PagerDuty
3.3 GitHub
3.5 Datadog
3.7 Pingdom

We noticed that companies investing in developer tools are three times as likely to deploy G Suite as are "non-developers" (companies without any developer tools). Our data shows that 46% of companies with at least one developer tool also have G Suite, vs. only 17% of non-developers. How does that break out on a tool-by-tool basis? Okta customers with G Suite are 3.7 times more likely to have Pingdom, 3.5 times more likely to have Datadog, and 3.3 times more likely to have GitHub than are companies who do not deploy G Suite.

6. InfoSecurity Magazine, "Active Directory Flaw Could Threaten 95% of Fortune 500 with Massive Information Heist," July 16, 2014.
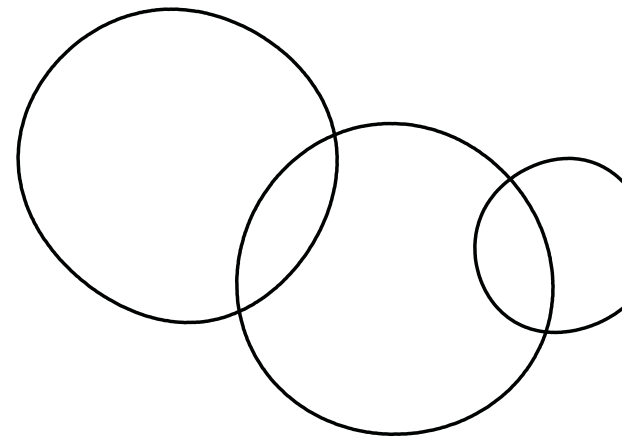
THE MORE FACTORS THE MERRIER… AND MORE SECURE

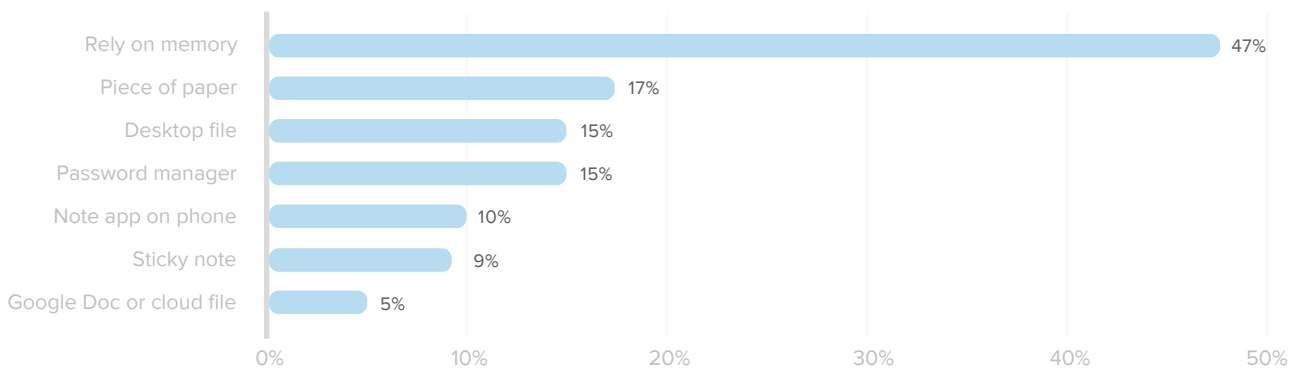**BROAD MFA, BECAUSE KANYE'S NOT THE ONLY ONE WITH "000000" AS A PASSWORD**

It's no secret that if you're online, you're at risk. 2018 has been a groundbreaking year when it comes to cyberattacks, with [1138 breaches as of early December, exposing over 561 million records](#).[7] And these breaches are expensive. According to the Ponemon Institute's [2018 Cost of a Data Breach Study](#), the average cost of a stolen record is $148, and the total cost incurred from a data breach averages $3.86 million.[8] Organizations took an average of 197 days to identify a breach, and 69 days to contain the breach. The pain doesn't stop there: once breached, there is a 32% likelihood of a recurring material data breach over the next two years.

Passwords alone are insufficient for data protection, especially when you factor in human error. Nearly 40% of survey respondents told us they recycle the same 2-4 passwords for almost everything, and 10% reported using just one password. In a positive twist, 1 in 5 respondents claim to use a unique password for every single account. Bravo!

But the hardest part about using a unique password for each account is actually remembering that tricky combination of numbers, capital letters, and symbols. In fact, 26% of survey respondents admit to regularly writing down their passwords on a sticky note or piece of paper, and 7% have even shared their usernames and passwords with other colleagues. Plus, 43% say they only change their passwords when required to do so.

Survey Insights: How Knowledge Workers Save Passwords

| Category	Percentage
Rely on memory	47%
Piece of paper	17%
Desktop file	15%
Password manager	15%
Note app on phone	10%
Sticky note	9%
Google Doc or cloud file	5%

This bad behavior reveals a big opportunity for companies to automate the password process. A quarter of survey respondents want their companies to automate passwords and logins, which is second only to the desire for companies to automate software updates (29%).

Across the Okta Integration Network, we see more companies turning to MFA to reduce the risks that come with bad passwords and protect against costly breaches. And they're looking for flexibility in the factors they use, as well as the options they provide their employees. Some companies choose to tailor their factors to particular groups, adding stronger authorization for executives or customers than for average employees. We analyzed how many factors organizations use and which ones, and explored how their needs are changing over time.

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7. Identity Theft Resource Center, "Data Breach Reports," November 30, 2018.
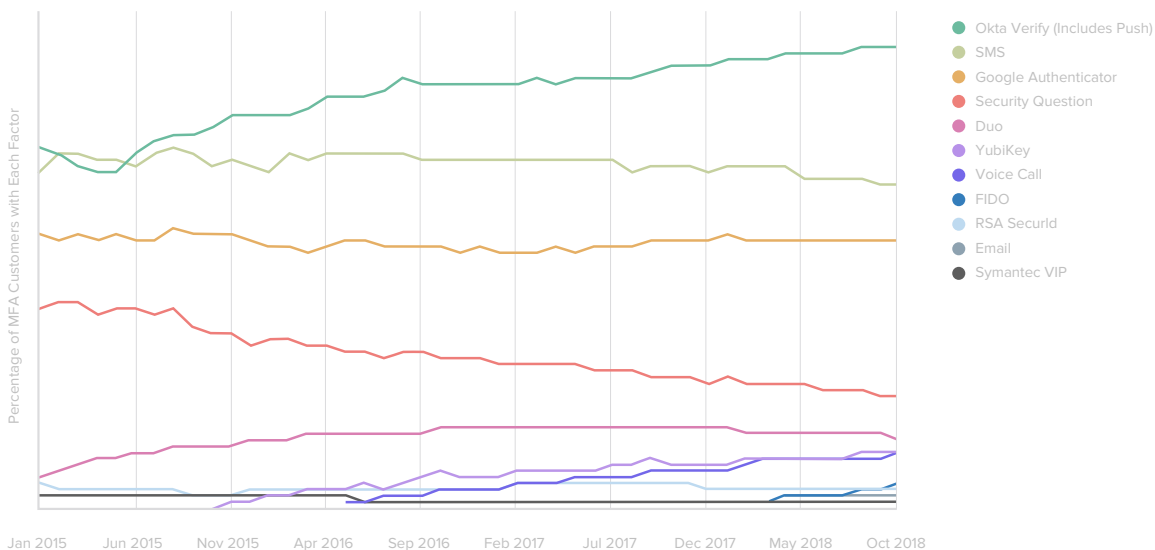8. Ponemon Institute, "Cost of Data Breach Study," 2018.

Of Okta Customers with MFA, Distribution by Number of Factors Deployed

Number of Factors

1	17.2%
2	26.1%
3	27.2%
4	17.2%
5	8.2%
6	3.1%
7	0.9%
8	0.1%
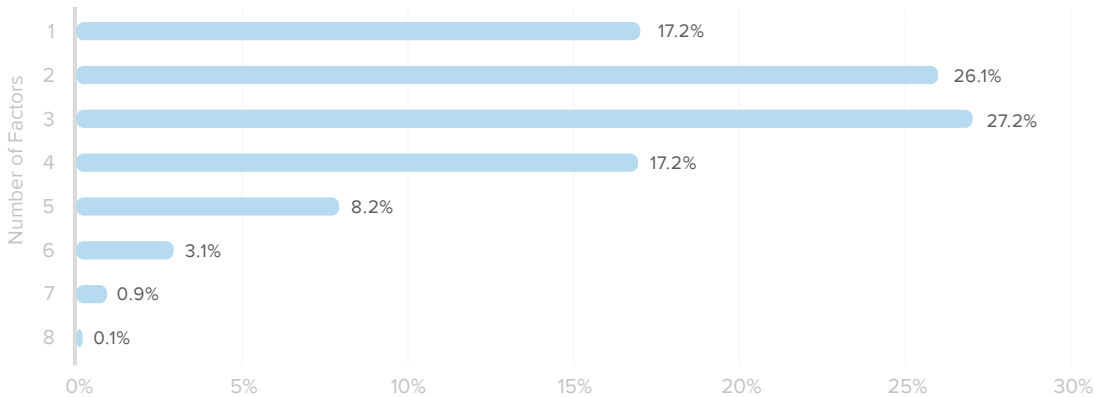
Note: Number of factors determined as of 10/31/2018.

Most companies—70%, in fact—are using two to four different factors. This number is up from 65% last year. And 29% of companies are using four or more factors.

Most Popular Factors by Percentage of Customers with Each Factor

Legend: Okta Verify (Includes Push), SMS, Google Authenticator, Security Question, Duo, YubiKey, Voice Call, FIDO, RSA SecurId, Email, Symantec VIP

X-axis: Jan 2015, Jun 2015, Nov 2015, Apr 2016, Sep 2016, Feb 2017, Jul 2017, Dec 2017, May 2018, Oct 2018

Note: Each data point includes customers with MFA authentications within the last 30 days.

So, which factors are on the rise, and which are on the decline? The latest Digital Authentication Guidelines from the National Institute of Standards and Technology (NIST) shift away from recommending SMS text messages as one of the factors in two-factor authentication.[9] Security researchers have less faith in SMS, as hackers find more and more ways to remotely intercept or redirect SMS texts. When it comes to security questions, many answers are available via public records, such as your mother's maiden name, and it's likely the name of your first dog is mentioned somewhere on Facebook or Instagram. Google's research confirms that secret questions generally offer a security level that is far lower than user-chosen passwords.[10]

When we look at the percentage of Okta customers using various factors, we see a slow but steady shift toward more secure factors (app generated codes, push authentication, and physical keys) and away from lower assurance factors like SMS and security questions.
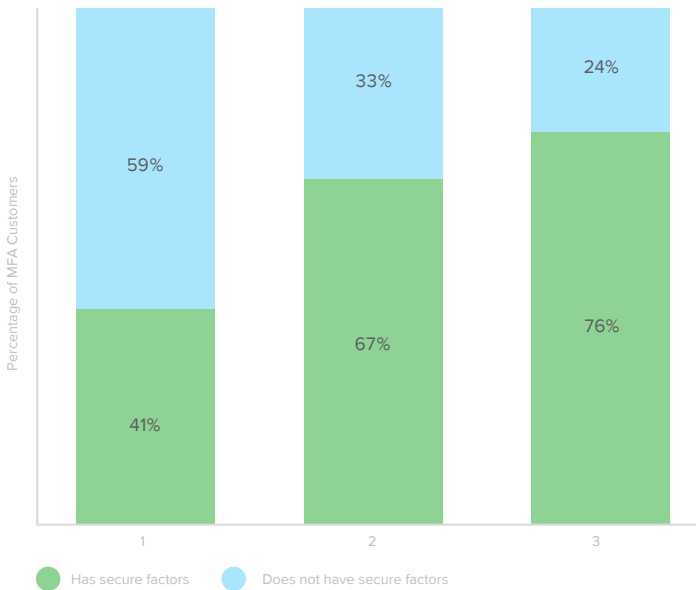
The two most commonly used factors are Okta Verify (a mobile app-based factor) and SMS. Use of Okta Verify has increased by 13 percentage points in the past three years, whereas SMS has dropped 3 percentage points. Security questions have shown the largest drop, from 29% three years ago down to 18% today.

9. National Institute of Standards and Technology, "Digital Identity Guidelines: Authentication and Lifecycle Management."
10. Google AI Research Publications, "Secrets, Lies, and Account Recovery: Lessons from the Use of Personal Knowledge Questions at Google."

Percentage of Customers with Less Secure Factors Adding More Secure Factors

Within Years Since First Factor Enrollment

Percentage of MFA Customers

	1	2	3
Does not have secure factors	59%	33%	24%
Has secure factors	41%	67%	76%

● Has secure factors   ● Does not have secure factors

A small percentage of organizations at first adopt less secure factors, such as SMS or security questions. But, most eventually up their game by adding more secure factors, such as a mobile app like Okta Verify, Google Authenticator or Duo, or token-based YubiKey. Of the customers who initially only enrolled less secure factors with Okta, 41% added more secure factors within a year, 67% added more secure factors within two years, and 76% added more secure factors within three years.

Which of the more secure factors are added most frequently? Two years out, 71% of customers had added Okta Verify, and 44% had added Google Authenticator, while 15% had added YubiKey and 5% had added Duo.
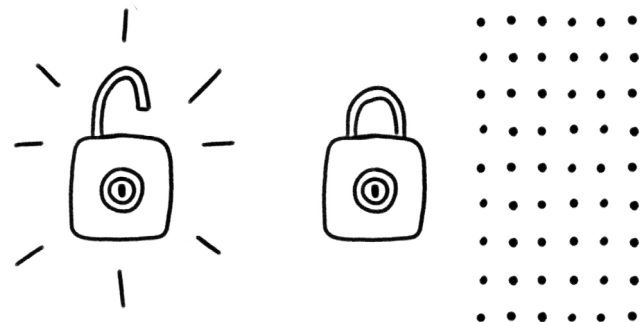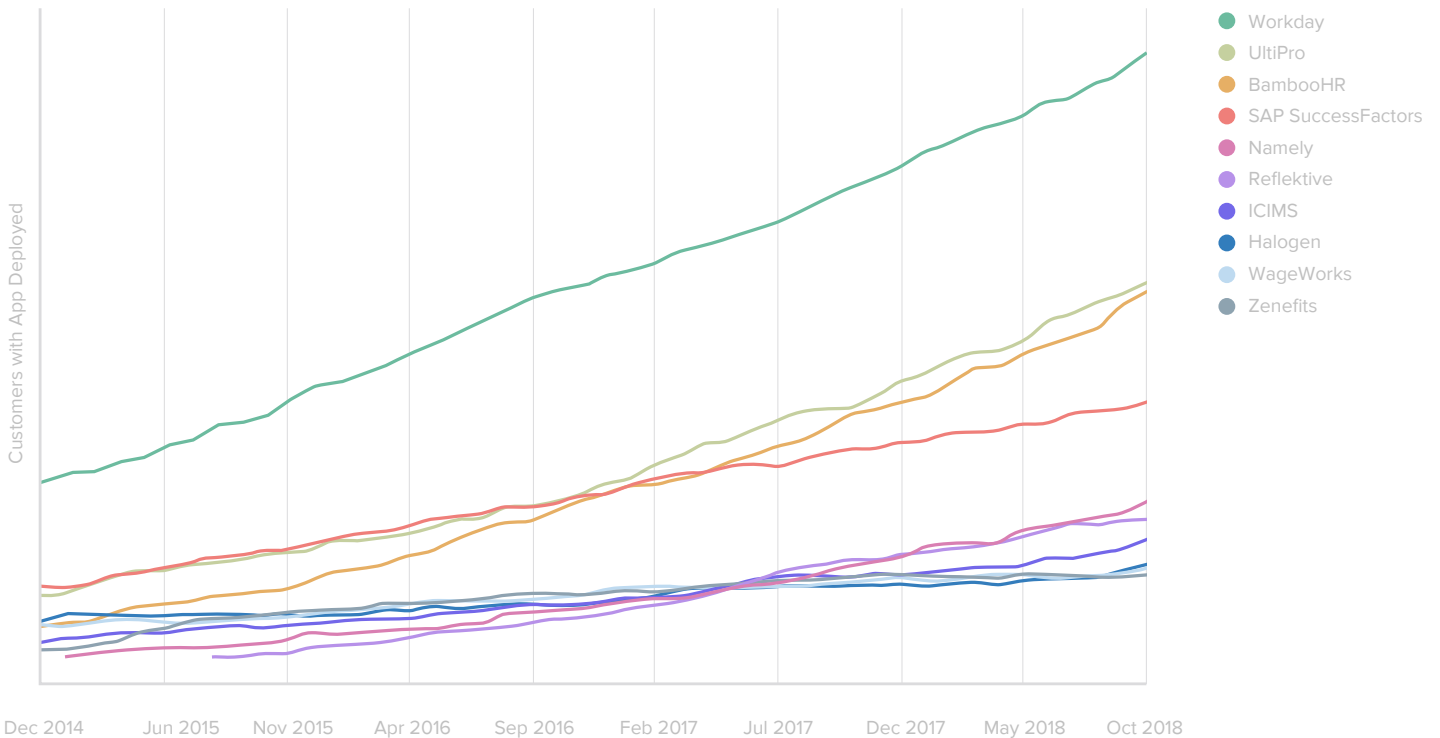
MORE COMPANIES ARE MASTERING HR
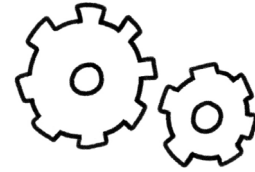
INVESTING IN PEOPLE MEANS INVESTING IN HR TOOLS

How is technology changing the field of HR? Based on the growing influence of millennials and increasing transparency from the digital age, experts predicted that 2018 would be the year leaders truly invested in the 'employee experience.'[11]

Our data shows that companies are leveraging their HR systems in new ways, and investing in up-and-coming tools. Three of the top 10 apps by number of users are HR-related, with HR systems Workday and SAP SuccessFactors at #2 and #8 respectively.

Most Popular HR Apps

Legend:
- Workday
- UltiPro
- BambooHR
- SAP SuccessFactors
- Namely
- Reflektive
- ICIMS
- Halogen
- WageWorks
- Zenefits

Y-axis: Customers with App Deployed

X-axis: Dec 2014, Jun 2015, Nov 2015, Apr 2016, Sep 2016, Feb 2017, Jul 2017, Dec 2017, May 2018, Oct 2018
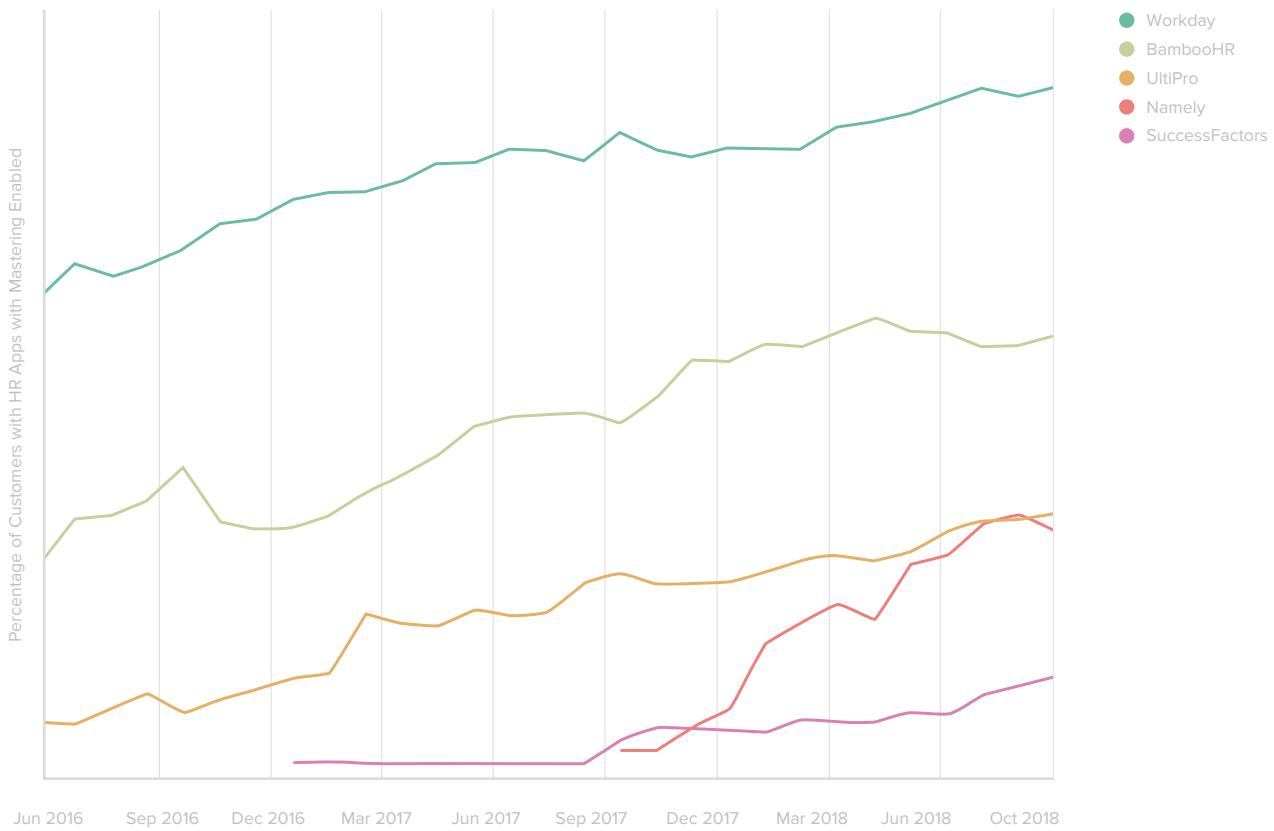
We see apps in the HR field growing steadily as well. Namely claims the fastest growth by number of customers, with 67% year over year, closely followed by BambooHR at 51% and UltiPro at 50%. Chart-topping Workday has the fifth fastest growth with 28% year over year.
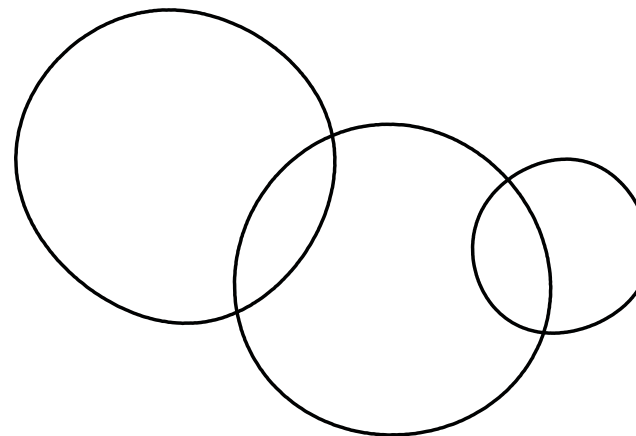
Percentage of Customers Leveraging HR-Driven IT Functionality Among Customers Deploying HR Apps

Percentage of Customers with HR Apps with Mastering Enabled

Legend: Workday, BambooHR, UltiPro, Namely, SuccessFactors

X-axis: Jun 2016, Sep 2016, Dec 2016, Mar 2017, Jun 2017, Sep 2017, Dec 2017, Mar 2018, Jun 2018, Oct 2018

One of the big trends we're seeing is that HR teams are now increasingly responsible for onboarding and offboarding users, a role traditionally owned by IT. They are using HR systems like Workday, Namely, and BambooHR as the source of truth for employee records, instead of older, on-prem directories. This eliminates manual, inefficient processes, which are typically error-prone and require ongoing back-and-forth between HR and IT. New employees are only given access to relevant apps, and HR can instantly deactivate all access to corporate accounts (including native mobile apps) for exiting employees.

WELCOME TO THE PLANET OF THE APPS

We've looked closely at how end users get their work done, and we asked ourselves: beyond the popular collaboration tools, what apps do employees use to work effectively with their colleagues? How do workers plan their travel? What project management tools do they use? And what apps do they choose to manage their daily lives, from reading the news to tracking their finances to managing healthcare?

ARE YOU TAKING A WORK-CATION, OR TRAVELING FOR BLEISURE?

Millennials now make up 35% of the American workforce, the largest single category.[12] This generation doesn't mind packing their bags and hopping on a plane for a business trip—they embrace it. A recent Hilton Hotels survey found that 75% of young professionals see business travel as a major perk, more than half create reasons to travel, and

39% wouldn't take a job that didn't allow them to travel![13] (Hey, nothing keeps an Instagram feed fresh like selfies from around the world, right?) But this is not your mother's business travel. Many millennials will loop in a vacation while they're on a business trip, creating a new blurred-line category of "bleisure" (business + leisure) travel. Airbnb reports that more than 30% of "Airbnb for Work" bookings in the past year included at least one weekend night.[14]

Of course all this travel is costly. Global business travel is estimated at $1.4 trillion annually.[15] So how can companies help their workers be productive, cater to workers with a travel bug, and still meet their bottom line? We're seeing some interesting trends in business travel that make it possible.

Note: In January 2016, Okta enabled customers to securely store private credentials when they visit any new site, thus the significant increase of all personal app usage around that time.
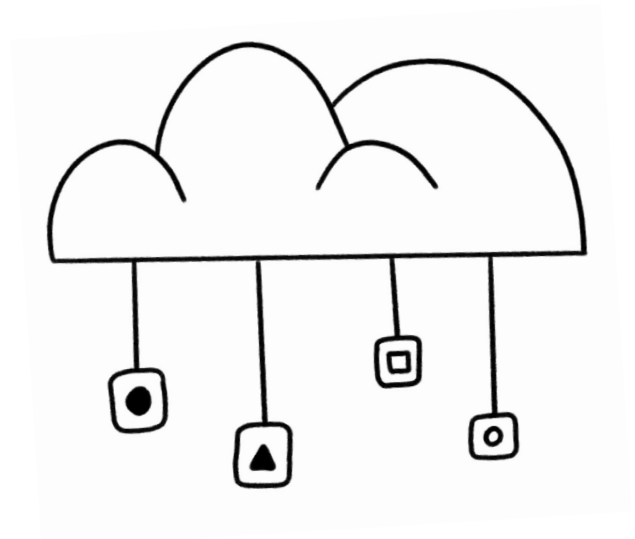
12. Pew Research Center, "Millennials Are the Largest Generation in the US Labor Market," April 11, 2018.
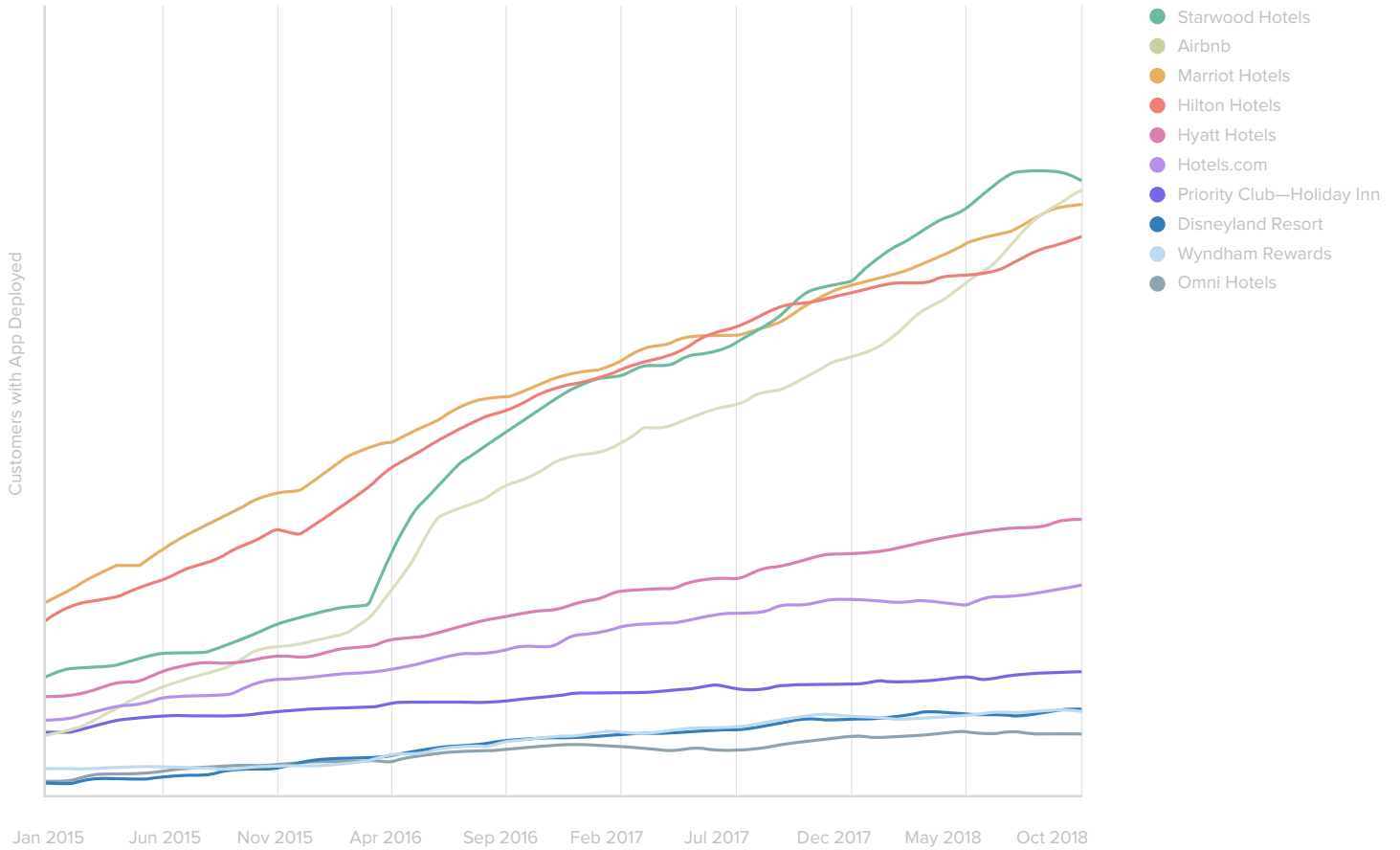13. Hilton Hotels, "New Research Reveals Ultimate #WorkPerk for Young Professionals: Traveling," June 27, 2018.
14. Airbnb, "Companies Booking Airbnb for Business Travel More Than Double with Nearly 700,000 Using Airbnb for Work", August 6, 2018.
15. Global Business Travel Association.

Most Popular Hotel and Lodging Apps

Legend:
- Starwood Hotels
- Airbnb
- Marriot Hotels
- Hilton Hotels
- Hyatt Hotels
- Hotels.com
- Priority Club—Holiday Inn
- Disneyland Resort
- Wyndham Rewards
- Omni Hotels

Y-axis: Customers with App Deployed

X-axis: Jan 2015, Jun 2015, Nov 2015, Apr 2016, Sep 2016, Feb 2017, Jul 2017, Dec 2017, May 2018, Oct 2018
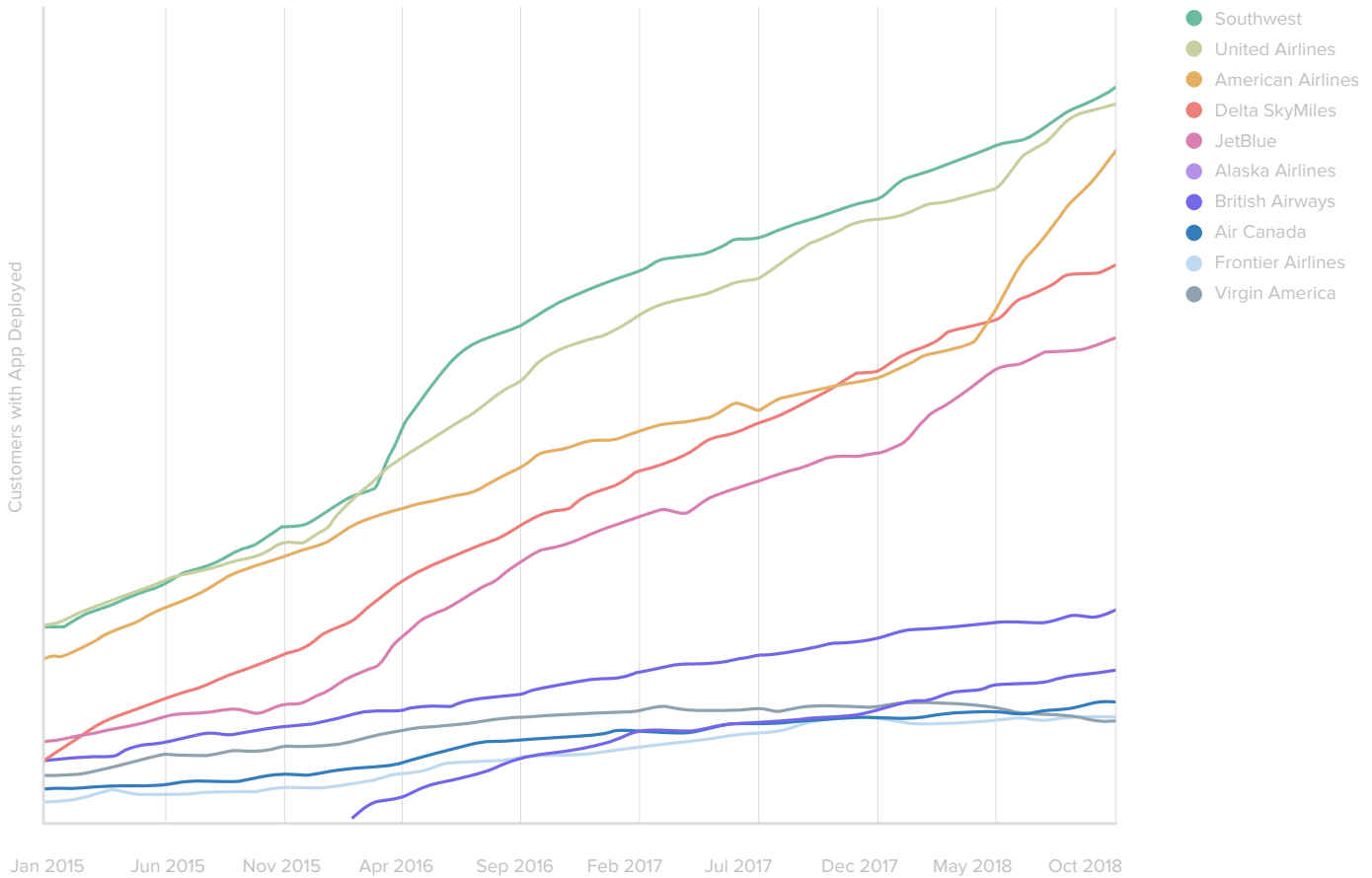
Note: Data includes both personal and corporate apps.

In the past year, we've seen Airbnb climb from #4 to #2 in the most popular hotel and lodging apps. This jump represents more than just personal travel. Airbnb has invested in its business platform quite a bit since it launched in 2014, announcing a partnership with Concur and encouraging shared lodging to help workers avoid costly hotel bills in expensive cities.[16] The company recently reported that 60% of "Airbnb for Work" reservations have included more than one guest.[17] For the more traditional hotel experience, the Starwood Hotels group (which includes the Westin, Sheraton, and W Hotels) and Marriott lead the pack. This spring, Marriott International (which acquired Starwood in 2016) announced a new loyalty program with unified benefits across Marriott Rewards, The Ritz-Carlton Rewards, and Starwood Preferred Guest beginning in August. The individual rewards programs will be consolidated in 2019.
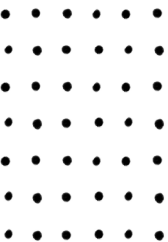
16. SAP Concur, "Airbnb and Concur Expand Partnership to Provide Airbnb Listings within Concur Travel", July 13, 2017.
17. Airbnb, "Companies Booking Airbnb for Business Travel More Than Double with Nearly 700,000 Using Airbnb for Work", August 6, 2018.

Most Popular Airline Apps

Y-axis: Customers with App Deployed

Legend:
- Southwest
- United Airlines
- American Airlines
- Delta SkyMiles
- JetBlue
- Alaska Airlines
- British Airways
- Air Canada
- Frontier Airlines
- Virgin America

X-axis: Jan 2015 · Jun 2015 · Nov 2015 · Apr 2016 · Sep 2016 · Feb 2017 · Jul 2017 · Dec 2017 · May 2018 · Oct 2018
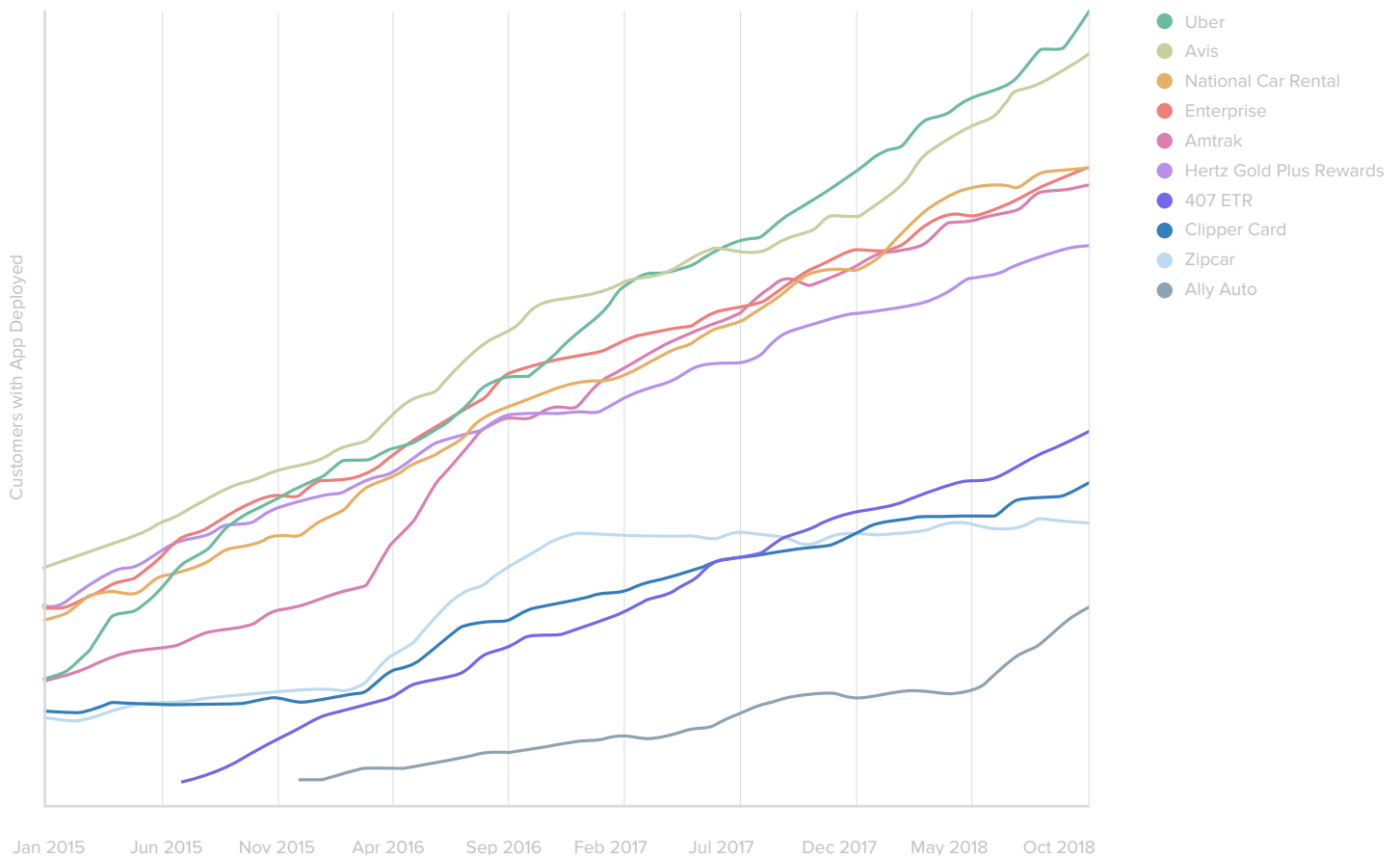
Note: Data includes both personal and corporate apps.

Southwest Airlines, a popular choice for families, has locked its radar on business travelers as well: Southwest flew into the #1 spot over two years ago and continues to gain altitude. United, American, Delta, and JetBlue have all enjoyed strong growth over the past two years, but we were impressed by American Airlines' jump this past spring.

Most Popular Ground Transportation Apps

- Uber
- Avis
- National Car Rental
- Enterprise
- Amtrak
- Hertz Gold Plus Rewards
- 407 ETR
- Clipper Card
- Zipcar
- Ally Auto

Customers with App Deployed

Jan 2015   Jun 2015   Nov 2015   Apr 2016   Sep 2016   Feb 2017   Jul 2017   Dec 2017   May 2018   Oct 2018

Note: Data includes both personal and corporate apps.

Business travelers need to hit the ground running. For the past year, Uber has held the top spot in the ground transportation app race and continues to grow. Its Uber for Business dashboard, launched in 2014, allows customers to consolidate payments, generate rolled-up reports, and set customized rules for things like vehicle class and spend allowances.[18] Uber was recently the most expensed vendor for U.S. business travelers based on the number of transactions, accounting for 11% of all transactions.[19] (Second-place Starbucks only claimed 4% of the total.)
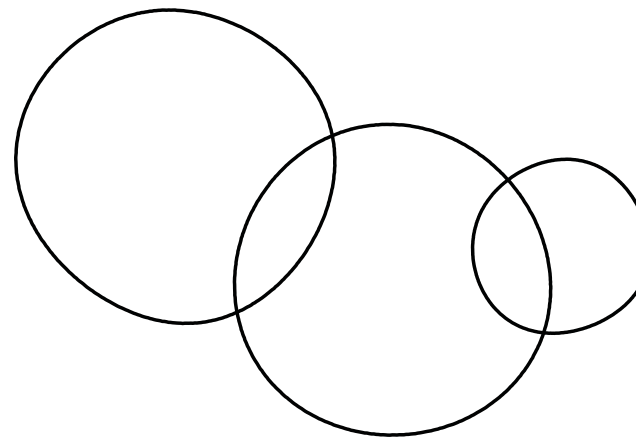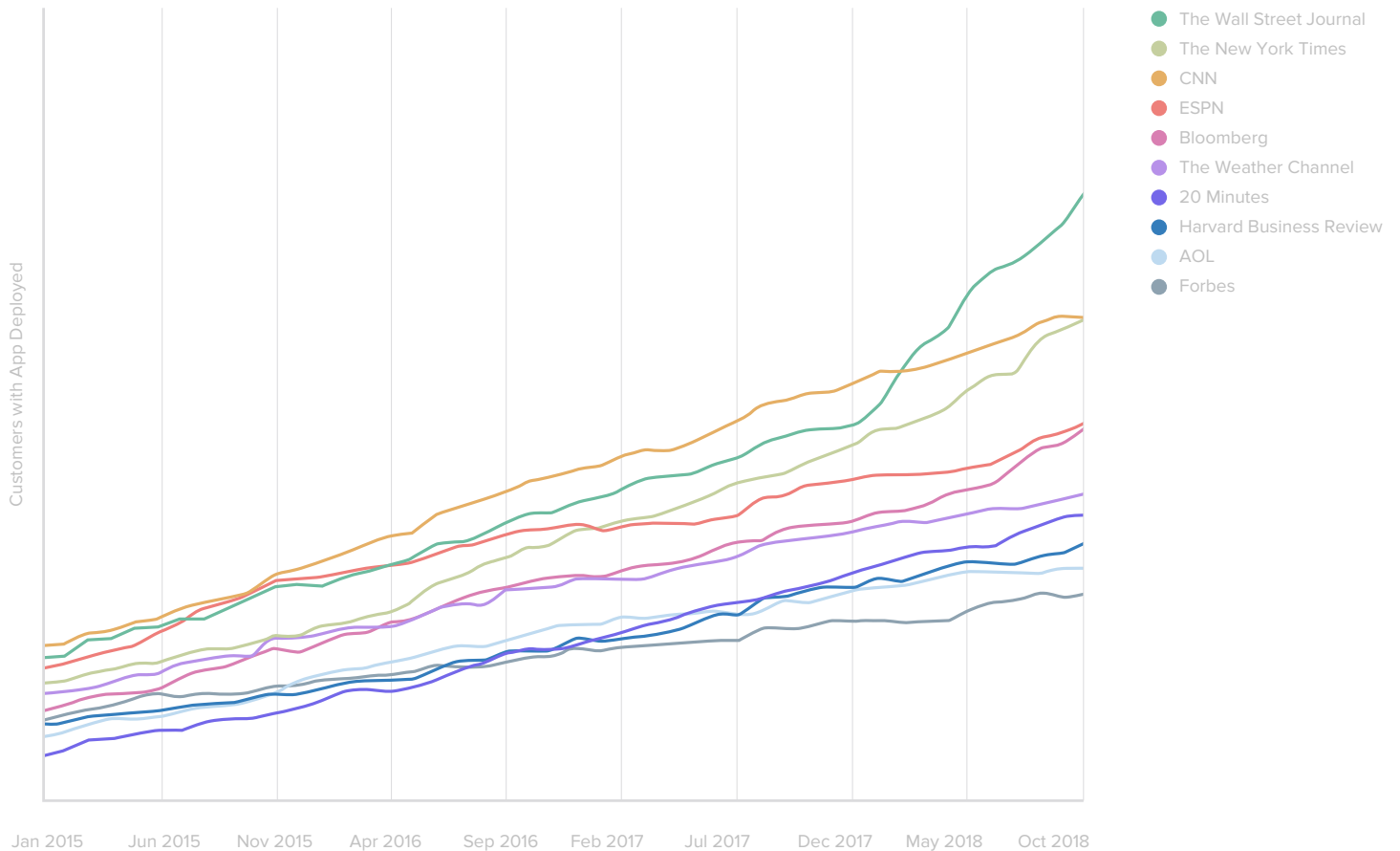
18. Uber for Business, uber.com/business/.
19. Business of Apps, "Uber Revenue and Usage Statistics (2018)," November 28, 2018.
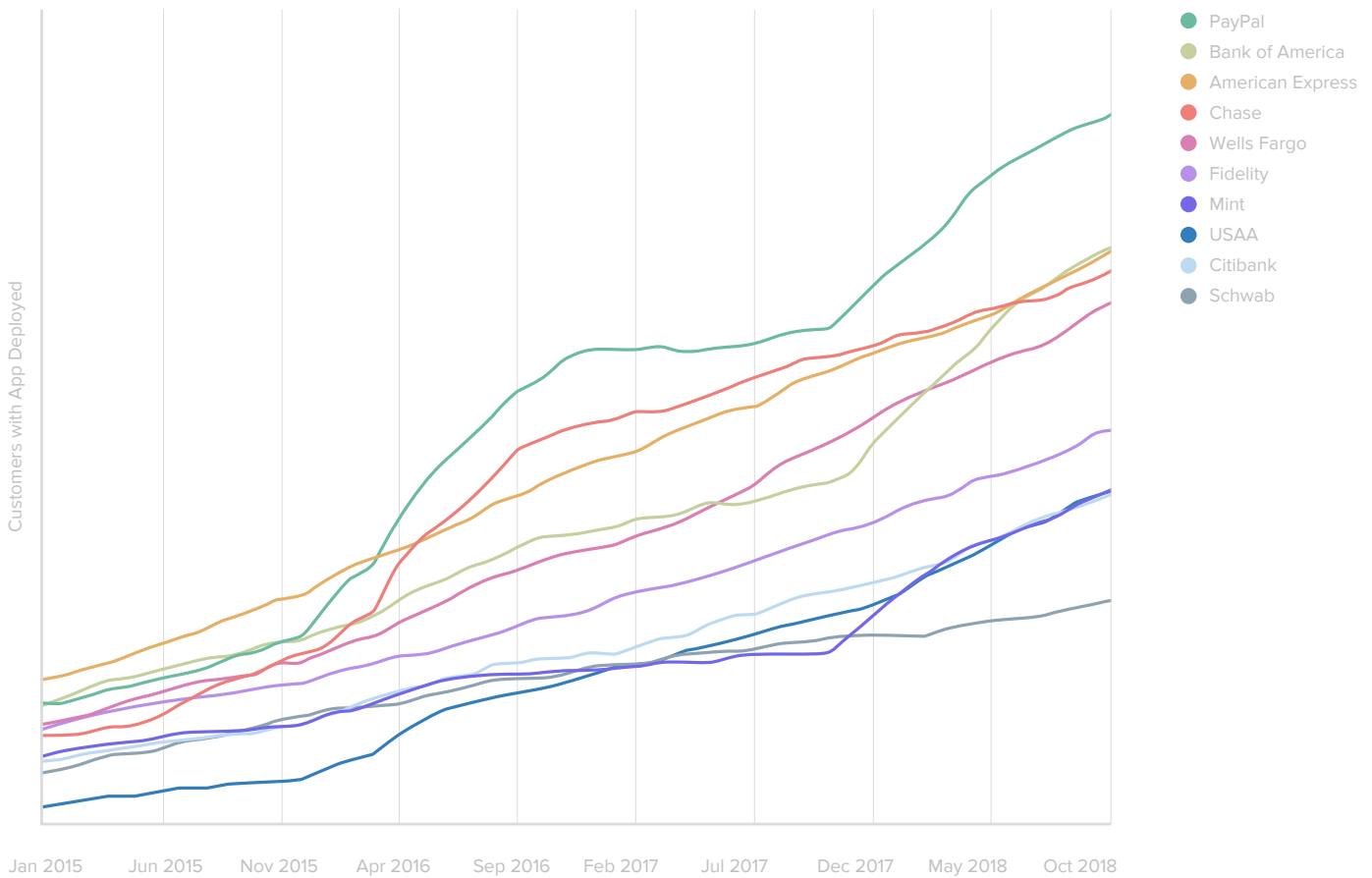
Most Popular News Apps

Note: Data includes both personal and corporate apps.

Roughly nine in ten adults (93%) get at least some news online, via desktop or mobile.[20] The New York Times has seen digital become the fastest-growing part of their business, with revenue topping $450 million in the first nine months of the year.[21] We see strong demand for news apps among our user base, with growth across the board—most notably for The Wall Street Journal, which surpassed CNN as the most popular app for Okta customers. What changed? Well, last year, parent company Dow Jones & Co. set a goal of reaching 3 million WSJ subscribers across its titles on print and digital

and ramped up product testing with a focus on increasing consumption, time spent on the site, subscriber retention, and event attendance.[22] Dow Jones reached its goal in April 2018 and the WSJ's growth is reflected in our dataset as well.

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20. Pew Research Center, "Digital News Fact Sheet: State of the News Media," June 6, 2018.
21. New York Times, "New York Times Tops 4 Million Mark in Total Subscribers," November 1, 2018.
22. Digiday, "To Grow Subscribers, the Wall Street Journal Focuses on Product Testing," October 31, 2018.

Most Popular Banking and Personal Finance Apps

Customers with App Deployed

Legend:
- PayPal
- Bank of America
- American Express
- Chase
- Wells Fargo
- Fidelity
- Mint
- USAA
- Citibank
- Schwab

Jan 2015 — Jun 2015 — Nov 2015 — Apr 2016 — Sep 2016 — Feb 2017 — Jul 2017 — Dec 2017 — May 2018 — Oct 2018

Note: Data includes both personal and corporate apps.

PayPal is a perfect example of how the power of network effects can grow the user base of modern banking apps. PayPal adoption seemed to be leveling off in 2017, but a jump in 2018 kept the online payment company at the top of the stack.

The general prediction for 2019, be it from Information Age,[23] G2Crowd,[24] or others, is that financial technology ("fintech") will continue to disrupt the traditional banking sector with new innovations and automation to improve the customer experience.
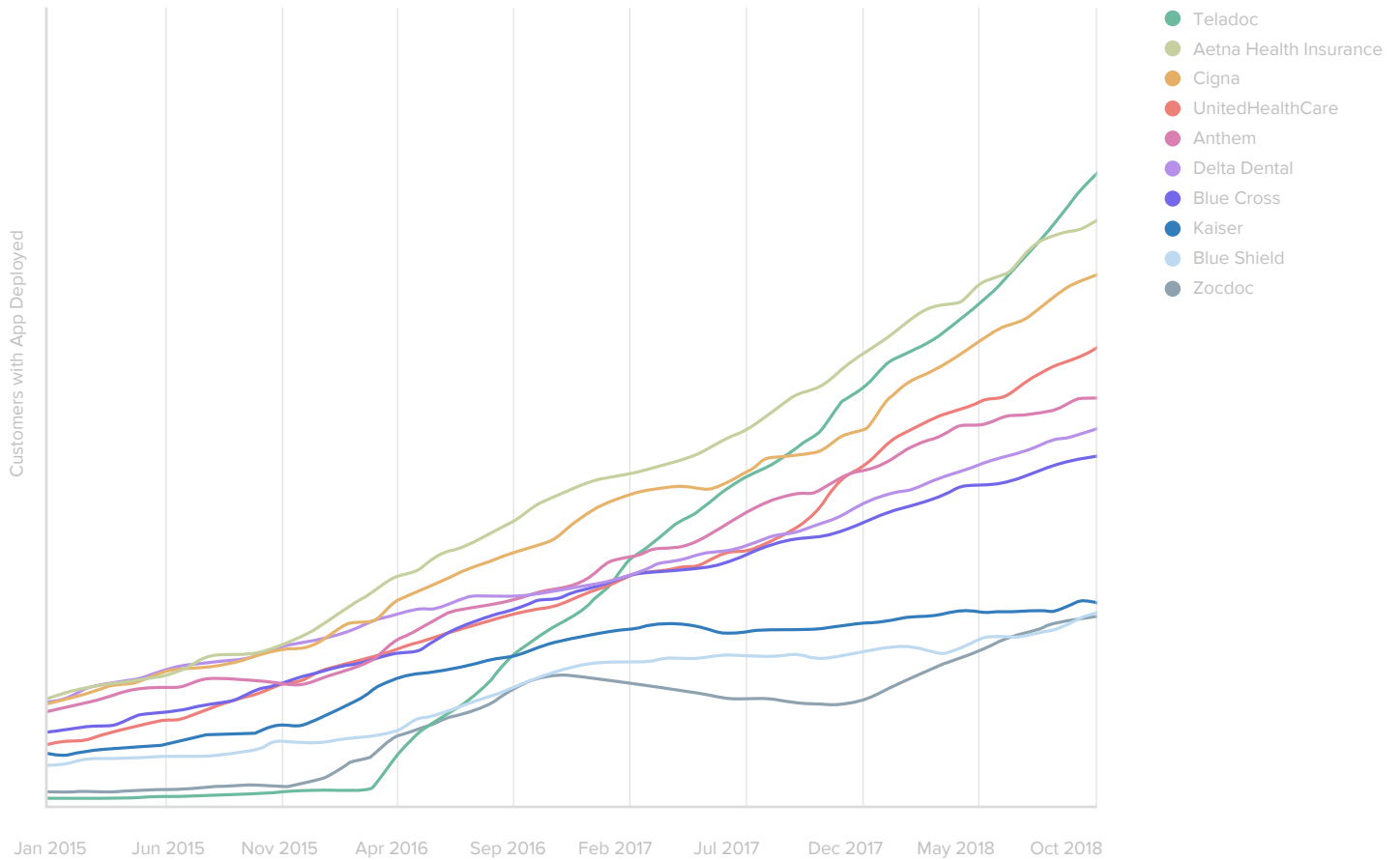
PASSWORD
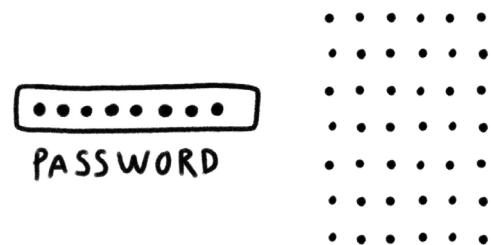
23. Information Age, "Technology predictions for the banking sector in 2019."
24. G2 Crowd, "Fintech Trends: 7 Things Disrupting Financial Technology in 2019", December 3, 2018.

Healthcare Is Making More House Calls

Most Popular Healthcare Apps

Legend:
- Teladoc
- Aetna Health Insurance
- Cigna
- UnitedHealthCare
- Anthem
- Delta Dental
- Blue Cross
- Kaiser
- Blue Shield
- Zocdoc

Y-axis: Customers with App Deployed

X-axis: Jan 2015, Jun 2015, Nov 2015, Apr 2016, Sep 2016, Feb 2017, Jul 2017, Dec 2017, May 2018, Oct 2018

Note: Data includes both personal and corporate apps.

Teladoc enables its members to speak to a licensed doctor via video chat or phone within minutes, 24 hours a day, 365 days a year. Sound convenient? Users think so. Teladoc rose from the bottom of the list, shooting up 280% in the past two years to blow past apps from household-name providers such as Aetna, Cigna, and UnitedHealthcare. It's the first time telemedicine has taken the top spot.
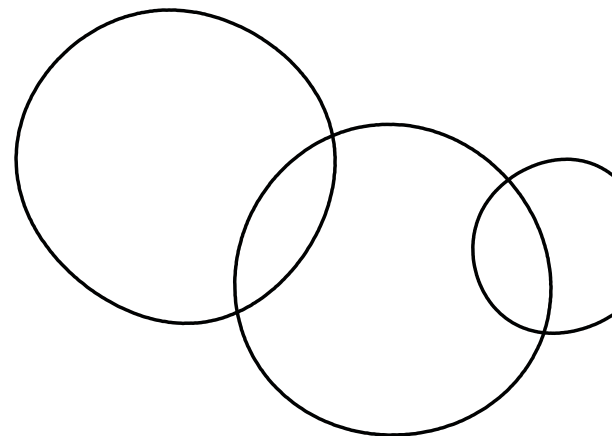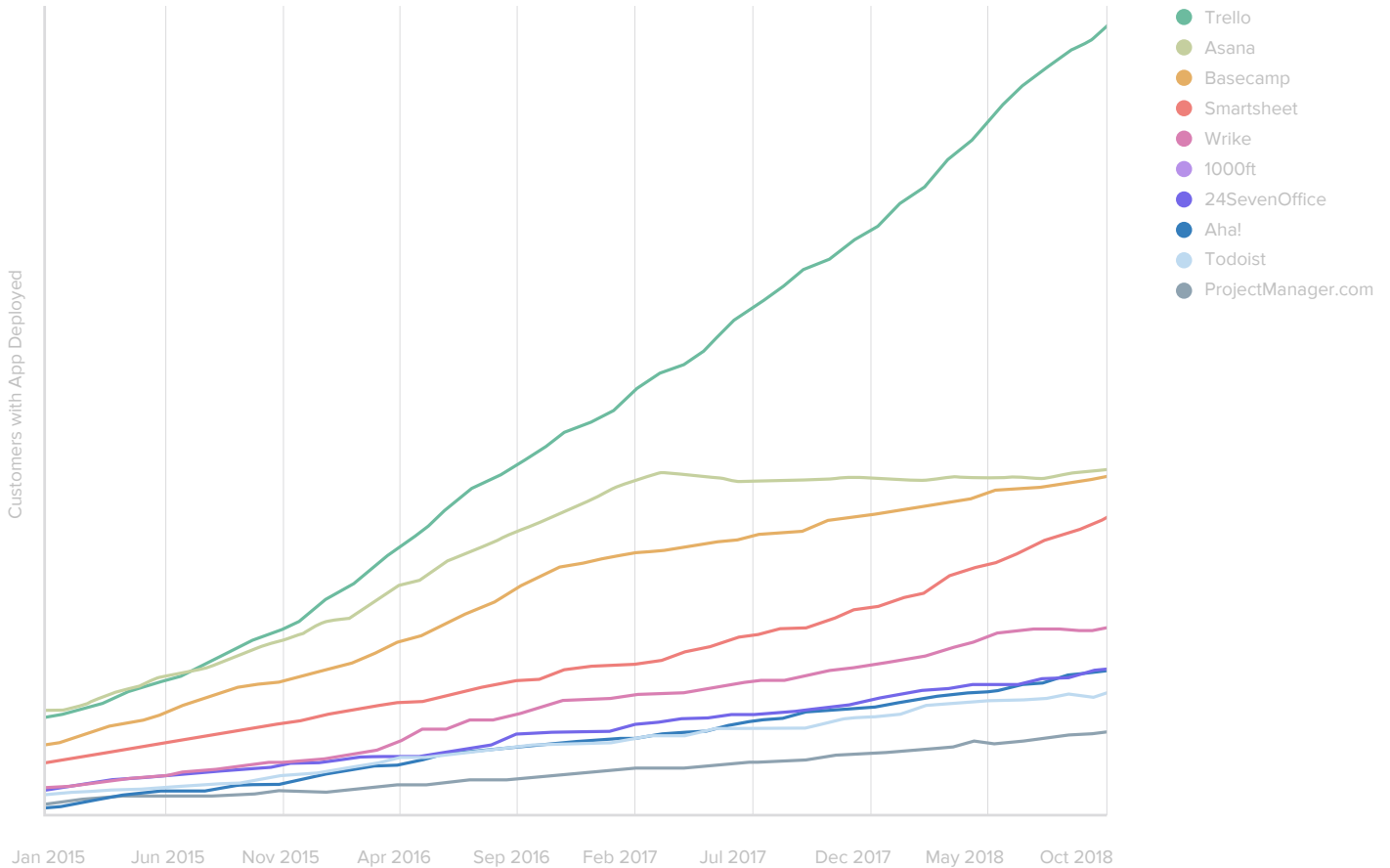
Where There's an App, There's a Way

Whatever projects you're taking on, there are plenty of project management apps available to help. You could spend an entire week searching through the range of apps designed to help you work more efficiently, but we've seen a few outpace their peers in efficient rises to the top.

Most Popular Project Management Apps

● Trello
● Asana
● Basecamp
● Smartsheet
● Wrike
● 1000ft
● 24SevenOffice
● Aha!
● Todoist
● ProjectManager.com

Note: Data includes both personal and corporate apps.

Taking sticky notes and whiteboards digital, Trello has hit a sweet spot in the project management space. Purchased by Atlassian in 2017 for $425 million, Trello has grown 119% over the past two years and is the most widely used project management app overall.[25] The second most used project management app is Asana, whose growth over the past two years has only been 18%. In third place, Basecamp is heating up with a strong 43% growth over the past two years.

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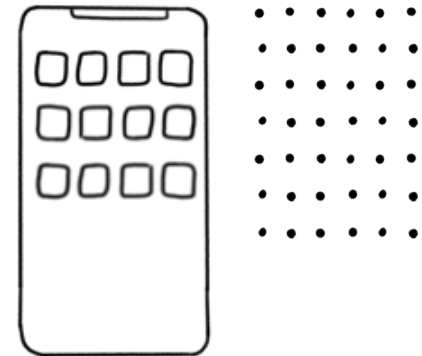
25. Wired, "Why Trello, a Simple To-Do App, is Worth $425 Million," January 9, 2017.
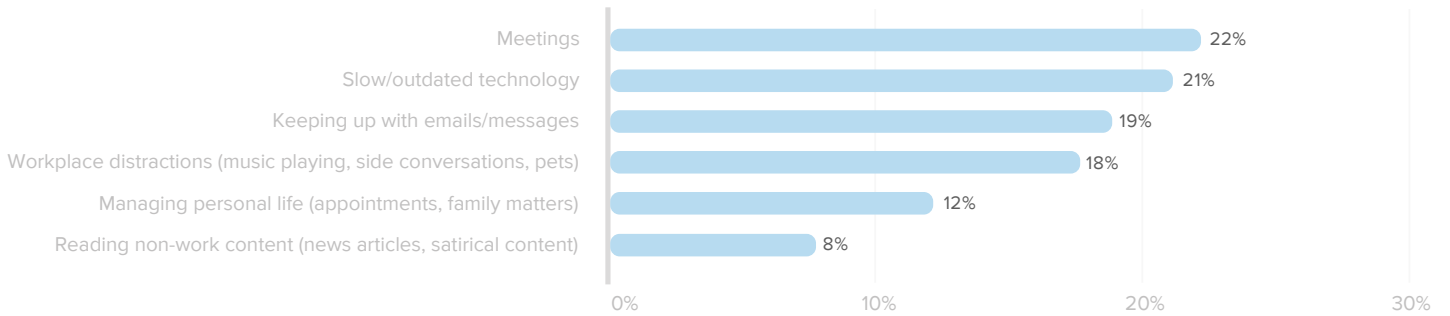
PEOPLE @ WORK

MORE MEETINGS, MORE PROBLEMS

Today's employees run into hurdles that keep them from working at peak productivity—and they cite meetings as the number one offender. In fact, 73% who responded to our survey say they would rather read an email than have a meeting. When we asked about top productivity killers, outdated technology trailed behind meetings, and keeping up with emails and messages came in third. We think it's safe to say that meetings are here to stay, but hopefully outdated technology isn't.

Survey Insights: Top Productivity Killers

Category	%
Meetings	22%
Slow/outdated technology	21%
Keeping up with emails/messages	19%
Workplace distractions (music playing, side conversations, pets)	18%
Managing personal life (appointments, family matters)	12%
Reading non-work content (news articles, satirical content)	8%

Meetings and slow tech tools aren't the only things that get knowledge workers down—video conferencing is also a source of frustration. Respondents in our survey ranked Skype as their least fa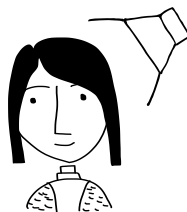vorite (23%) and most stressful (16%) app to use, and revealed that video conferencing even makes them feel uncomfortable. Only 14% prefer video calls over audio-only. But they see it as a necessary evil: 63% have still participated in a video conference.

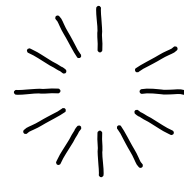## Survey Insights: Top Frustrations with Video Conferencing

I feel uncomfortable on video

30%

It prevents me from multitasking
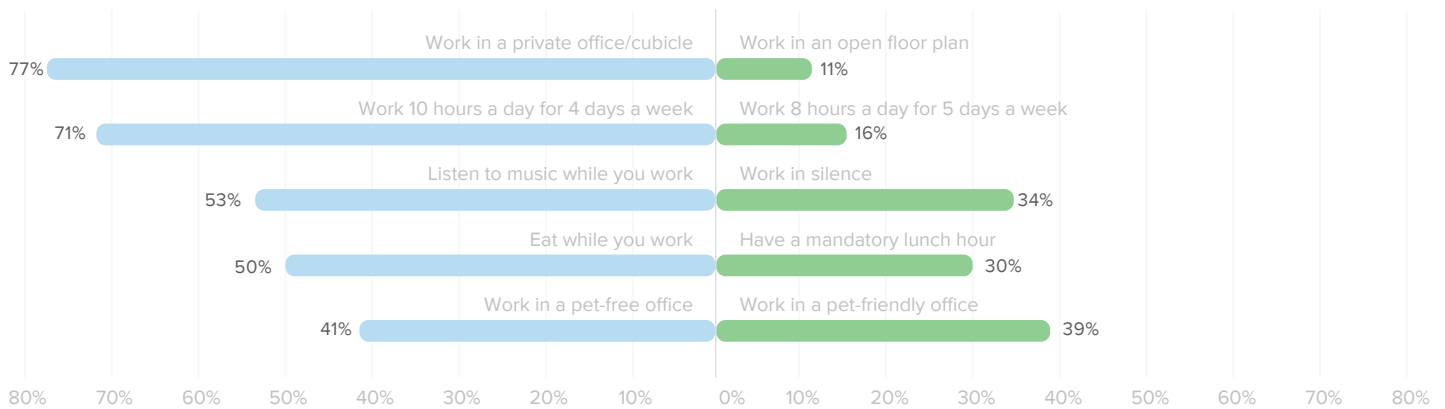
23%

It has frequent technical problems

23%

The modern office has undergone a massive transformation over the last few decades. We've taken our work to our phones and tablets, turned extra bedrooms into alternate offices, and torn down offices and cubicles in place of open-floor plans. But how do modern workers feel about it all?
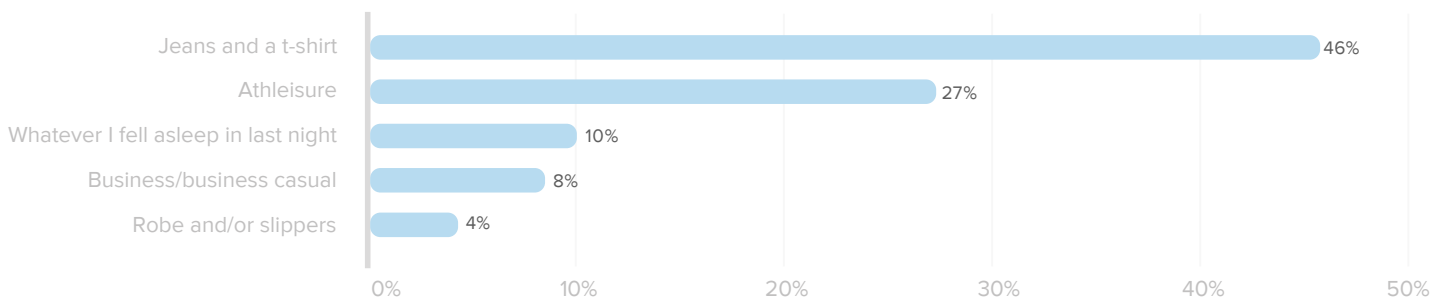
They like the idea of remote work—nearly 1 in 4 report already working from home at least half of the time, and 48% reveal they would rather work remotely every day. Open floor plans, however, are another story.

Survey Insights: Would You Rather?

	Work in a private office/cubicle	Work in an open floor plan	
77%		11%	
	Work 10 hours a day for 4 days a week	Work 8 hours a day for 5 days a week	
71%		16%	
	Listen to music while you work	Work in silence	
53%		34%	
	Eat while you work	Have a mandatory lunch hour	
50%		30%	
	Work in a pet-free office	Work in a pet-friendly office	
41%		39%	

For the 25% of survey respondents who work from home at least half the time, it's all about comfort.
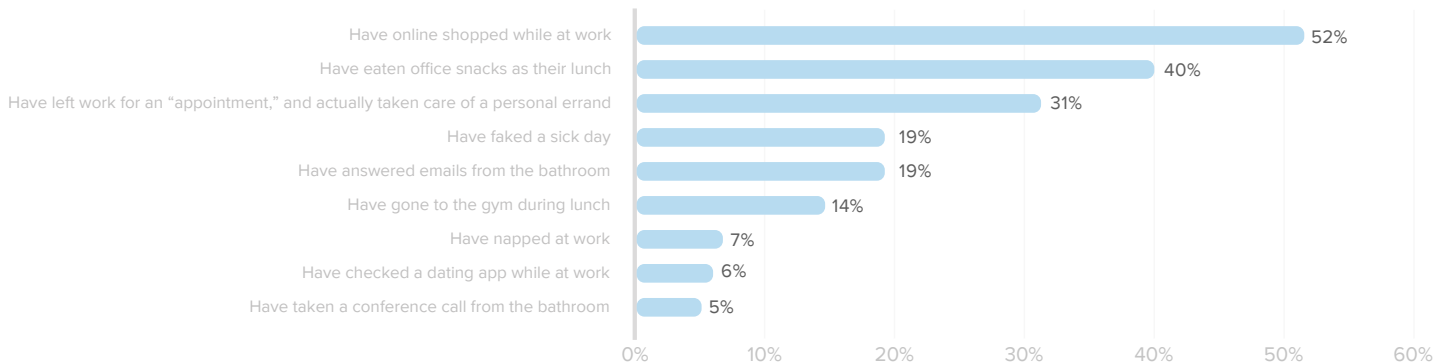
Survey Insights: Typical Work-from-Home Attire

Jeans and a t-shirt	46%
Athleisure	27%
Whatever I fell asleep in last night	10%
Business/business casual	8%
Robe and/or slippers	4%

In a typical work week, there's a lot that happens in the office that isn't directly tied to the daily grind. To better understand the average employee's habits, we asked: what are the secret quirks people might not be willing to divulge to an employer?

We learned that some are running on office snacks, whereas others skip lunch for a workout. They're also checking their dating apps during the workday, and aren't afraid to fake a sick day every once in a while.

Survey Insights: Office Worker Quirks

Have online shopped while at work	52%
Have eaten office snacks as their lunch	40%
Have left work for an "appointment," and actually taken care of a personal errand	31%
Have faked a sick day	19%
Have answered emails from the bathroom	19%
Have gone to the gym during lunch	14%
Have napped at work	7%
Have checked a dating app while at work	6%
Have taken a conference call from the bathroom	5%

All of this talk about dating apps and online shopping may have you wondering: where is the line between business and pleasure? It is blurring, but knowledge workers aren't worried. According to our survey findings, 58% say their employer can read their work emails and messages, but 57% aren't concerned about it one bit. More than half (53%) feel confident that their employer respects their digital privacy. But the trust ends there: 44% are concerned that email providers are collecting their personal data.
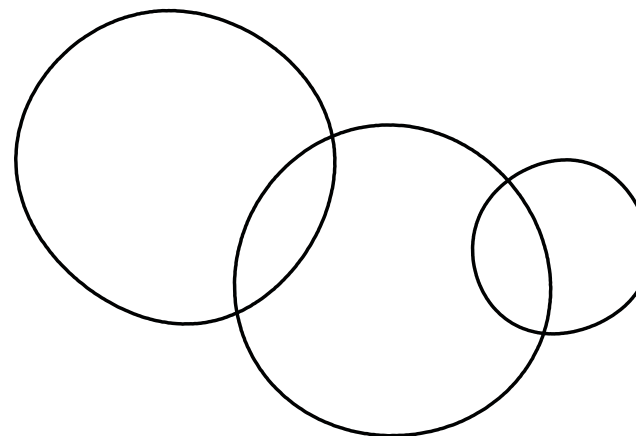
THE WR-APP UP

In order to keep their workforce productive and working in harmony, organizations are adopting tools and solutions at a rapid rate. Identity-driven security and HR-driven IT provisioning keep organizations light on their toes, with their data safely buckled away. Network effects are forcing dance-offs between 800 pound gorillas, while launching scrappy startups that offer differentiated functionality into the spotlight. Larger companies are doing the hybrid IT shuffle, adopting an increasing number of cloud apps, while modernizing connections to on-prem systems. It's a crowded dance floor of apps and services, and the DJ never stops spinning the tunes. We hope this report helps you see above the crowd, offers you some fun insight into your worker's preferences, and ultimately prepares you for your next move.

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