What's now and what's next in human resources technology

PwC's Human Resources Technology Survey

August 2017

pwc

In 2017, close to 40% of the 300+ companies we surveyed have core HR applications in the cloud[1] and even more plan to migrate. For the organizations that have moved, their change agility has been put to the test. To have success, you'll need to avoid some common pitfalls and have a willingness to change company processes and policies. Furthermore, technologies beyond cloud HR offer new ways to address some of today's most pressing issues. From platform as a service, robotic process automation, and predictive analytics, the digital transformation of HR is upon us.

1 Also known as Software-as-a-service or SaaS

Imagine a world where traditional employment is no longer around. Instead, workers market themselves by their own personal brands and sell their skills to those who need them. Already 47% of working adults say this is what the future looks like to them. In this world, business unit leaders know where top employees come from and how to find more. They forecast future labor costs by quarter. And they predict which people will leave or stay. The Human Resources Officer is the business partner that enables it all.

Even if we can't predict the exact nature of what work will look like in the future, we can predict that the HR innovations required to get to the future state will rely heavily on technology. And the cloud platform, above all, provides the best vehicle for organizations to quickly consume and keep up with this pace of innovation. In addition, migrating to the cloud provides the spark needed to break old ways of working and adopt new ones. Whether you're increasing workforce efficiency with mobile technology, increasing collaboration with social networks, predicting business needs with analytics or artificial intelligence, or driving down costs and increasing quality with robotic process automation, the cloud is the first best step to enable it all.

In this fourth year of PwC's HR Technology Survey, we've looked at how cloud adoption is faring and how analytic applications, for instance, are being prioritized to enable the chief human resource officer's agenda.

We found that organizations of all sizes continue to migrate their HR processes to the cloud at a record pace. Two years ago, 68% of organizations had at least one HR process in the cloud. In 2017, that number has climbed to 73%. As a further barometer, nearly 40% have their core applications in the cloud. For those that still use on-premise applications (hosted within the organization's four walls) for core HR, nearly one-third are actively planning their migration to the cloud over the next 12–18 months.

This report details the impact that cloud is having on HR service delivery and why those on the fence should reconsider making the move. It outlines key lessons learned for creating a business case for cloud migration, what it takes to succeed during implementation, and how the next wave of HR technologies can help with challenges on the horizon.

Nearly 40% have moved their core applications to the cloud already and nearly one-third of the rest are actively planning their migration.

2 PwC survey of 10,029 members of the general population based in China, Germany, India, the UK and the US, May 2017.

A clear, positive impact

While this tectonic shift to the cloud for HR applications is undeniable, is it having the desired impact on the HR department's ability to better serve the workforce? The answer appears to be a resounding "yes."

Half of the organizations we surveyed linked their cloud implementation to an increase in the use of self-service tools for HR-related transactions, with 52% reporting an increase in employee usage, and 47% saying managers use self-service tools more regularly too. With better tools in the hands of employees and managers, HR resources can be untethered from much of their paper pushing and transaction processing tasks, which allows them to spend more time proactively working with their business partners. In fact, nearly one-third reported an increase in HR's bandwidth to play a stronger consulting role with the business. Lastly, 20% saw a decrease in HR personnel costs with their move to the cloud given the increased automation and innovation.

Achieving these types of results doesn't just happen by accident. It starts with a solid business case with expected results clearly defined. Of our survey respondents, 64% created a business case to support their transition to the cloud (19% did not and 17% were not sure). Of those that created a business case, roughly 65% of the expected benefits were achieved—or expected to be achieved—at the conclusion of their cloud migration. This data presents two opportunities. First, it is important to create a business case to define what success looks like and what return on investment (ROI) can be achieved. Second, when creating the business case, ROI expectations need to be well defined and realistic to avoid a financial misfire that would also damage IT and HR's continued credibility.

Why use the cloud
Top motivations to use the cloud for HR processes

Software innovation, quick releases

70%

Depend less on IT

50%

Lower cost of ownership

44%
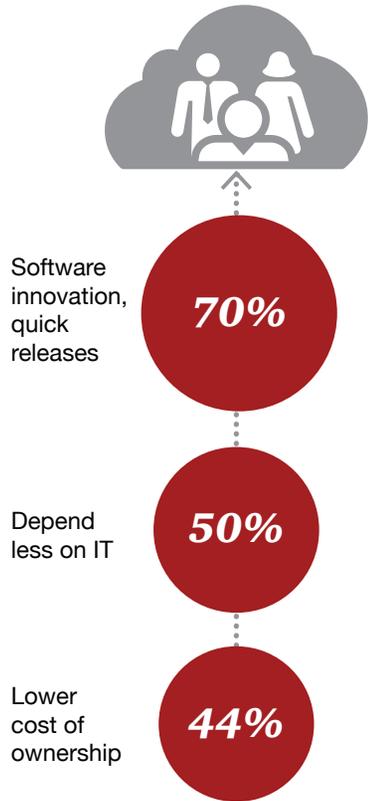
SaaS today and tomorrow
% respondents with plans to move to the cloud
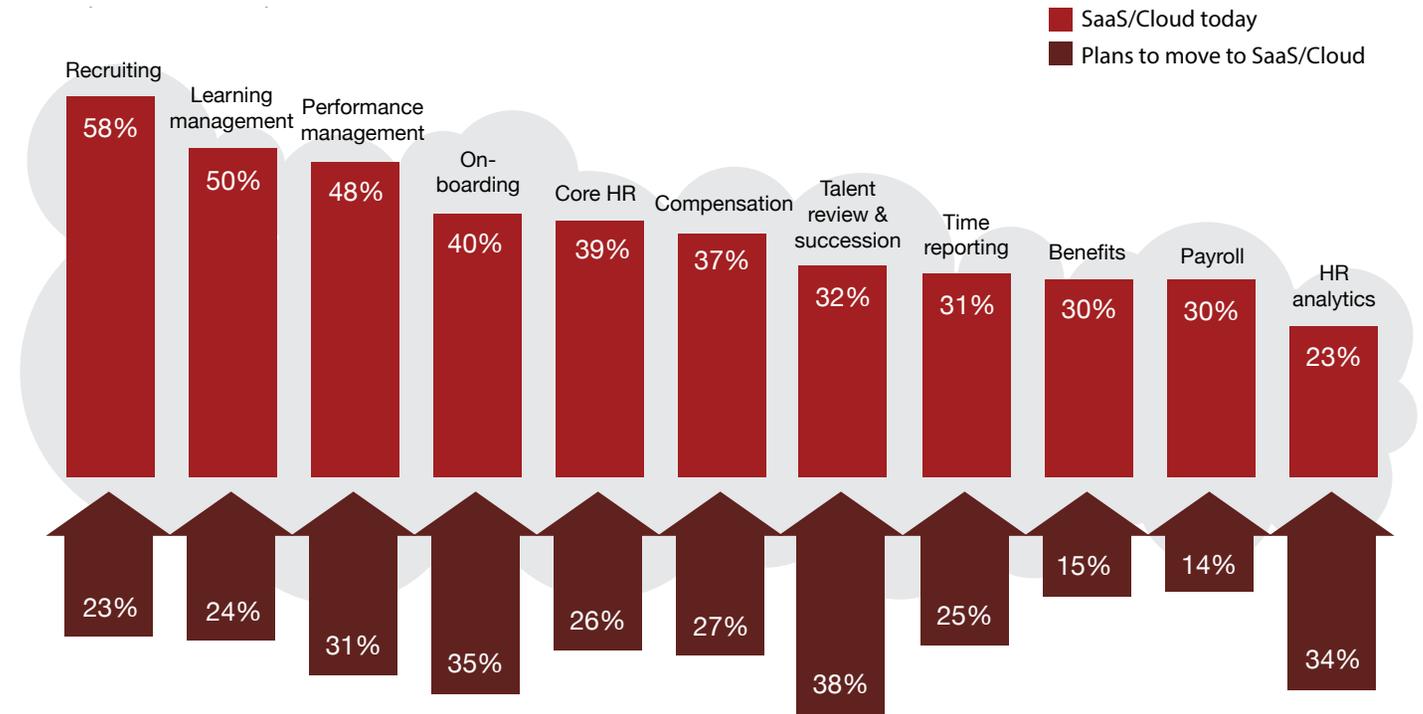
■ SaaS/Cloud today
■ Plans to move to SaaS/Cloud

Category	SaaS/Cloud today	Plans to move
Recruiting	58%	23%
Learning management	50%	24%
Performance management	48%	31%
On-boarding	40%	35%
Core HR	39%	26%
Compensation	37%	27%
Talent review & succession	32%	38%
Time reporting	31%	25%
Benefits	30%	15%
Payroll	30%	14%
HR analytics	23%	34%

How to make your case for moving to the cloud

When building your case and associated plans, consider these lessons learned from previous cloud implementations:

Consider a "land and expand," "mobile from the start" strategy.

When moving to the cloud for the first time, consider a "land and expand" approach in your business case. Start with one or just a few process areas, and then expand usage from there. This will help focus both energy and resources. Additionally, plan for the use of mobile right from the start. The deployment of mobile capabilities has increased with the adoption of the cloud. For instance, last year only 4% of survey respondents noted that "any of their HR transactions performed on the web were also available on mobile." This year, that number has climbed to 20%. Still, only 17% of HR organizations in the survey identified the deployment of mobile as a priority. This is interesting considering various studies have shown that the average person looks at their mobile devices between 45 and 85 times per day.

Outside of the associated communications to the workforce, the effort to deploy the companion mobile capabilities for many of the cloud vendors is not significant. Mobile goes a long way in driving positive user experiences and the "anywhere/anytime" access needed to drive the service delivery impacts noted earlier. Furthermore, our teams are asking for it but HR and IT are often slow to deliver. For example, 50% of survey respondents felt that mobile-enabled performance management would add a high degree of value to managers, however, only 20% of organizations provided this capability.
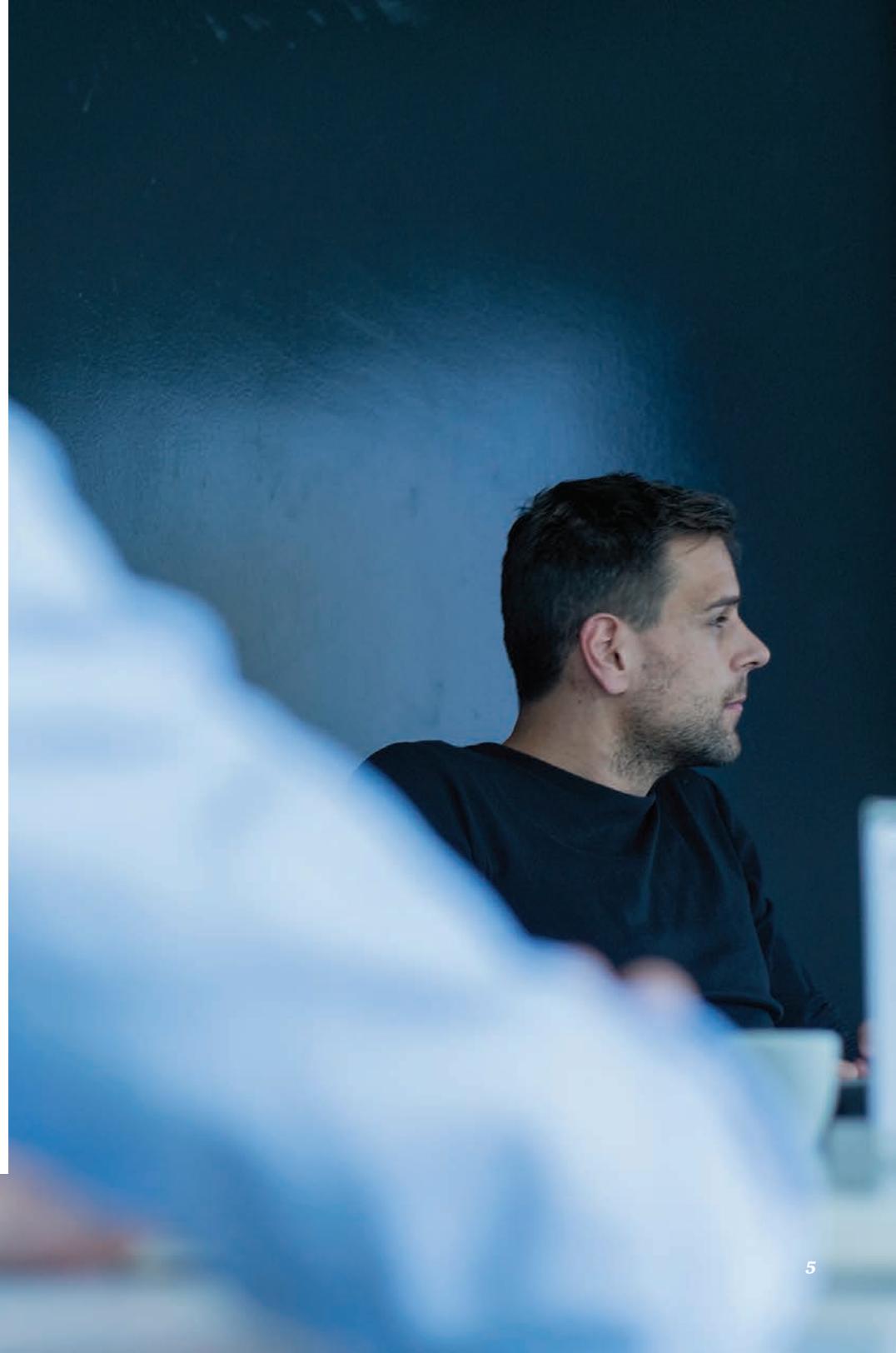
Don't rely solely on other's experiences when setting your schedule, identify the variables that matter to you.

When thinking about your cloud implementation timeline, focus less on what you may hear from others regarding how quickly they were able to implement HR in the cloud and think more about how quickly your organization can absorb change. Consider the following: How long were other implementations at your organization with similar size and scope? How does your organization make decisions? Are you a consensus-based organization or can a small group make decisions quickly? Can you dedicate resources to the implementation or will assigned individuals be required to absorb project activities on top of their current workloads? Answering these questions can help you properly budget for the right implementation schedule. While there are a number of variables that drive implementation timelines as noted above, the average/benchmark cloud implementation with five process areas (modules) is about a year, according to our survey.

Account carefully for internal project team resources.

One of the key implementation challenges that climbed into the top three in the 2017 survey was "the lack of internal resources to assist with the project," noted by 44% of the respondents. When crafting the cost side of your business case, make sure you have accounted for the staffing of internal resources familiar with your business requirements. Often, this means budgeting for temporary backfills so these key resources can be dedicated in whole or in part to the project. This also means being mindful of when your project can be launched based on internal resource availability and/or being candid with your implementation partner on what roles they may need to fill due to lack of internal availability.

Set appropriate expectations for cost savings.

Achieving greater predictability around cost is one of the key benefits for the cloud. Subscription fee-based cost models and the ease at which cloud updates are consumed are key reasons for this predictability, even though subscription costs can often be more than traditional maintenance fee models. While there can certainly be savings, over hyping savings for cloud migrations is a common trap. One common pitfall to avoid: Do not be overly aggressive on headcount savings, at least not initially while the organization is still learning the new ways of working.

Based on the survey data, 4% of HRIS teams (HR information services resources supporting the HR applications, such as business analysts) saw a decrease in FTEs, 33% saw an increase in FTEs and 63% did not experience an FTE impact up or down. When it came to HRIT teams (IT resources supporting the HR applications, such as developers) 19% saw a decrease in FTEs, 11% saw an increase in FTEs, and 71% did not experience an FTE impact up or down. In the cases where the headcount numbers did move up or down, the change was not more than a few FTEs on average. The takeaway is that every organization has unique circumstances that can drive these numbers. Be thoughtful about what assumptions are made in the business case as it relates to resource needs and headcount savings.

Build in time and budget for some manual work-arounds or for platform as a service (PaaS) extensions.

Platform as a service provides organizations with the ability to extend SaaS functionality by adding new features without conflicting with software updates. This may be needed to close any critical functionality gaps that arise during the implementation. In other words, do not forget a contingency in your budget. Twenty percent is a good target depending on the thoroughness of your assessment phase.

What to consider if you're still on the fence

This year's data marks a turning point in satisfaction with cloud implementations. Most of our survey respondents—78% of them—are satisfied with the ability of their cloud products to meet their business needs. In contrast, when PwC asked this same question in 2015, only 62% were satisfied. What is behind this shift? Vendors are pushing new releases to customers anywhere from two to four times a year. With each passing year, vendors have refined and improved their processes around development, release management, defect management, testing, and communication. This has had a big impact on closing previous satisfaction gaps.

The number of organizations citing that product defects caused implementation issues has dropped sharply. Last year, 52% noted software "bugs" as a top issue. This year, only 24% called this out as a problem. Last year only 67% of requirements could be met "out of the box" by cloud vendors. Today, that number has grown to 70%. This steady year-over-year improvement in quality and capabilities should provide comfort to those organizations that are wavering in terms of their shift to the cloud for human capital management.

Every organization has to undertake their own assessment on whether and when they should move their HR applications to the cloud. If a year or more has passed since your last assessment of cloud as a viable option, it may be time for another look as many of the most common concerns can now be addressed.

Moving to the cloud now will help position your organization for the future digital disruption and workforce changes that we all know are headed our way.

Satisfaction with the cloud is up, due to vendor responsiveness

Satisfied   **Unsatisfied**

83%	17%

Defect-free patches

80%	20%

Ease of release adoption

75%	25%

Communication of future plans

79%	21%

Enhancement schedule

70%	30%

Issue resolution
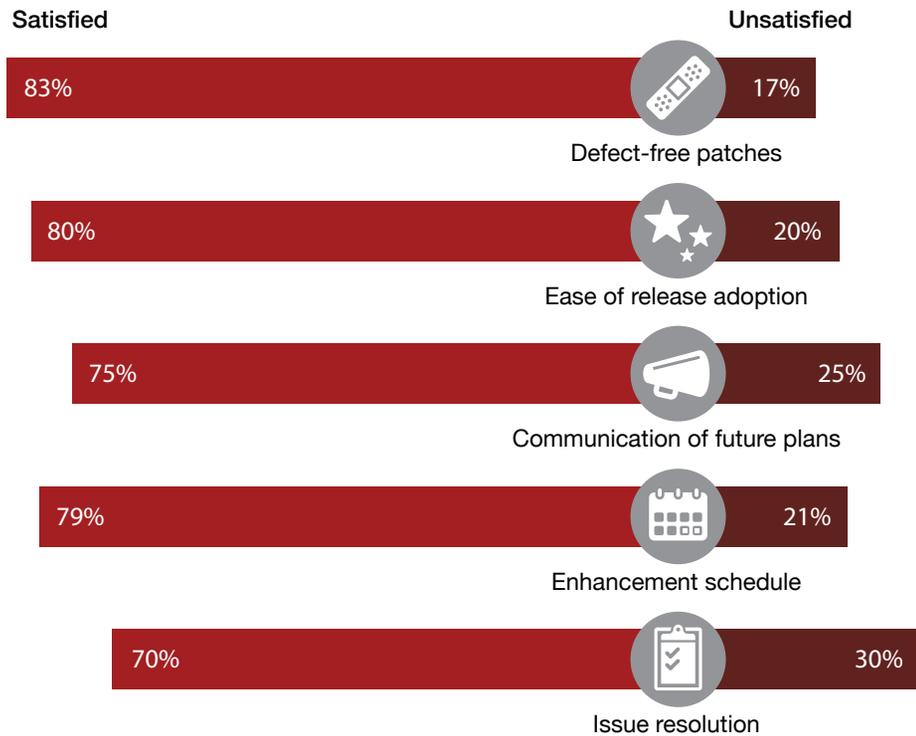
Base: 171
How satisfied are you with the following?
Source: PwC's HR Technology Survey, August 2017.

Reasons to delay are being addressed
Why some HR organizations say "no" to cloud migrations

Data security in the cloud
17%

Ability to customize the product
16%

Products need to be more mature
15%

Base: 251
If you have no intention of moving your core HR/Payroll system to the cloud, what would change your mind? (select all that apply)

Source: PwC's HR Technology Survey, August 2017.

How to tackle a cloud implementation

Our survey validates what we see time and time again on cloud implementation projects: leaders must be open and prepared for change. The top cloud implementation challenge is the unwillingness of organizations to give up customizations and embrace the SaaS mind-set (cited by 54%). Even though 73% of business processes could ultimately be accommodated with cloud software, on average, organizations had to adjust 45% of their HR-related processes in some way to help them fit into the cloud.

In most cases, adjusting processes to fit the cloud is a positive change for an organization. Harmonizing business processes that may be non-standard across the organization and simplifying complexities (e.g., workflow approvals) aid in standardizing and streamlining. However, in some cases, moving to the cloud may mean the loss of functionality or automation. For example, your organization may have a union pay requirement involving a complex calculation beyond the capability of your cloud payroll or time collection application. Whereas this may have been a customization in the past, with the cloud, it may require a manual work-around. On average, our survey takers answered that approximately 20% of their processes were compromised in some way. Change requires compromise. Having stakeholders aligned and prepared to make these kinds of decisions—and support compromise—is critical before you launch your project.

Your task: anticipating implementation challenges
Top challenges for HR cloud implementations
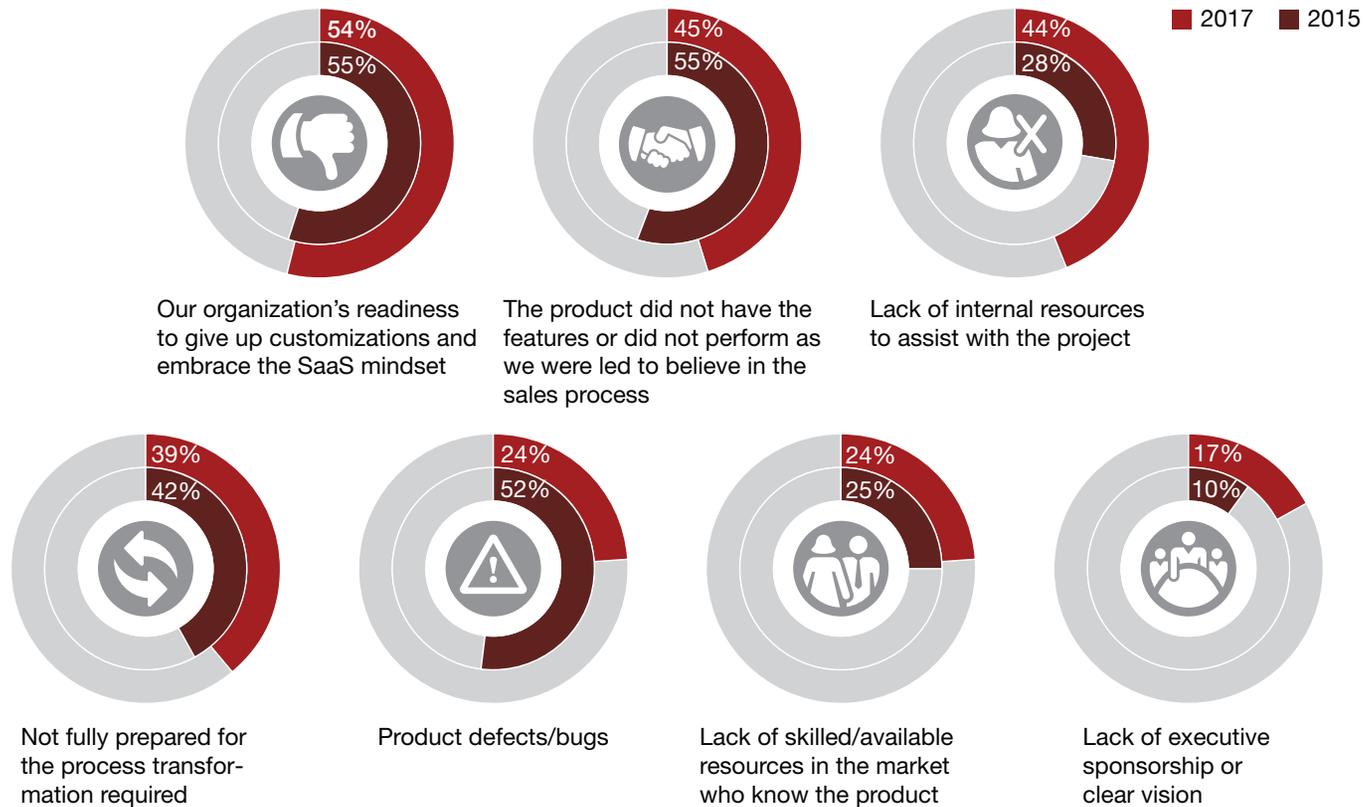
Processes changed in cloud implementation
Change makes you happy

■ 2017 ■ 2015

54%
55%
Our organization's readiness to give up customizations and embrace the SaaS mindset

45%
55%
The product did not have the features or did not perform as we were led to believe in the sales process

44%
28%
Lack of internal resources to assist with the project

39%
42%
Not fully prepared for the process transformation required

24%
52%
Product defects/bugs

24%
25%
Lack of skilled/available resources in the market who know the product

17%
10%
Lack of executive sponsorship or clear vision

% Very satisfied

26%
Changed 0-25% of processes

47%
Changed 75-100% of processes

Tips for successful HR cloud migration

Here are some tips to help prevent some of the implementation challenges cited by our survey participants:

Focus on the critical few capabilities during your software evaluation.

While 69% of organizations list "software functionality" as their number one selection criteria, many do not focus enough time on their handful of non-negotiables. If there is a certain practice or policy that is very specific to your organization and it cannot be changed, make sure it takes center stage over the hundreds of common requirements that the vendors all handle in largely the same way. Also, focus on the processes/transactions that will be used by the greatest percentage of your workforce (employee and manager self-service transactions).

Ask stakeholders to champion change.

While providing the financial and people resources required for a transformational project is critical, commitment from stakeholders for a cloud project goes further. Each stakeholder must be a willing and capable change champion, garnering support from other leaders in the organization to challenge the status quo. They must define an inspirational "moon shot" type of message for the project team to ensure they stay positive when everything doesn't fit neatly or exactly the same way as it did in the past. The primary reason companies move their HR processes to the cloud is for the constant innovation. It is important for these stakeholder change champions to remind everyone that the cloud is a continual change journey and not a static destination.

Engage communication and change management experts right from the start of the project.

Whether they come from within the organization or from outside, having a dedicated communication and change management team can work wonders when it comes to surfacing and socializing the most impactful changes between old ways of working and new ones. Remember that 45% of processes change in some way during cloud migrations. Most people do not like surprises when it comes to how they do their work. A strong change management and communication team can socialize process changes with stakeholders continually during the project, "pressure testing" ideas as the team makes decisions. Once changes are approved, communications to the workforce can be gradual instead of an "avalanche of change" at cutover. Training programs can be designed to highlight these new ways of working—comparing and contrasting old and new ways to get things done.

Lean on your cloud vendor.

With on-premise software, HR and IT play critical roles in on-going application support. Dialog with the software vendor is perhaps a few times a year, if you have a question or are planning for an upgrade. With the cloud, software vendor communications are weekly, if not daily. They become a critical part of your team, a third leg of your service-delivery stool along with HR and IT. As such, make sure you know what is coming on your cloud vendor's product road maps and make sure they are aware of your needs as well. This can help you anticipate change and help manage expectations for when any gaps might be closed by the vendor.

Masking data: most companies aren't getting it right

In our survey, less than half of respondents (45%) said their company masks data in their test environments to protect sensitive data such as salary and personally identifiable information.

A data breach can potentially cost a large enterprise millions, and fines and penalties can make the impact worse. Whether the cause is negligence or a malicious attack, the result is the same: damage to a business's reputation and a loss of customer confidence. Companies must ensure data security policies apply just as stringently to internal processes as they do for external systems. Up to 45% of data loss incidents have been linked to people in positions of trust.*

Leading companies design and implement a data-masking strategy to prevent developers, quality assurance (QA), and third-party service providers from having direct exposure to confidential data. Names, addresses, Social Security numbers, and other personally identifying information can be hidden from potentially prying eyes using data scrambling methods such as substitution, shuffling, and masking based on simple to complex rules.

....

* PwC, The Cost of a Data Breach, 2016.

What to change in your approach to analytics

Your workforce is your single largest annual investment. For most companies, it accounts for more than 30% of revenue. So regularly reviewing people data, like hidden labor costs and turnover trends, can bring to light issues that've held back your business, or opportunities where your people could work more effectively. Yet too few companies have a people analytics function in place bringing these insights to leadership.

HR analytics is the priority that's most often named when we asked about improved HR technology support, planned implementations, or upgrades. Of twenty-one categories, nearly 44% of endorsements were for improved technology support for HR analytics, followed by performance management (41%), recruiting (41%), and core HR capabilities (37%).

Yet technology deployments that are not tightly linked to a workforce analytics strategy can lead to conflicting priorities that do not support the strategic direction of the enterprise. We found that only 14% of respondents were "very satisfied" with their current HR analytics technology. And of the companies that have implemented HR analytics modules, 50% report low adoption rates of analytical programs.

Questions to ask before investing in HR analytics

The best HR analytic programs take a deliberate approach that begins with a framework synchronized to who, what, why, when, and how. If you're still ailing from the inability to extract useful, accurate information from voluminous enterprise data, focus your efforts by answering the following important questions:

- Where should we start on the workforce analytics journey?
- What insights, if we had them, would have the greatest impact to the business?
- How do we use the different technologies to reach our goals?
- How do we use analytics to make our current enterprise business intelligence and reporting more relevant?
- How do we use the predictive value of HR information to drive business decisions?
- What data will be useful in the future and how do we prepare for that future now?
- How do we build a sustainable organization and staffing structure to drive workforce analytics across the organization?

Building the team is core to the challenge

It's not uncommon for mature people analytics teams at larger, more progressive companies to have six to ten people on staff. PwC's Saratoga benchmarking unit suggests a ratio of one people analytics team member for about every 3,500 employees in an organization. To build your own team, you'll need to decide:

- What services should the group provide and how do these services add value beyond the reporting and analytics efforts already underway (within and outside of HR)?
- What types of competencies and skills are needed?
- Where should the function sit within the organization?
- Who should lead the effort?
- How much investment is enough?

Most companies immediately think about the need for data scientists to make up the people analytics team, but we find reality to be quite different. People skilled in reporting, algebra-style math, some statistical knowledge, and a strong business background are the foundation of the analytics team. You'll also need staff that understands technology and data management, depending on the analytic tools you select. Finally, you'll need a business consulting competency so that insights can be explained in ways that motivate change and lead to action.

Where leading companies are going

While data from cloud HR applications is often extracted and used in analytics, a fair number of organizations (34%) indicate the need to have analytic applications themselves be cloud based, similar to other HR modules. The need for timely, meaningful, and insightful data and information continues to be a key driver within this transformation. Organizations that are looking to take their analytics capabilities to the next level are seeking ways to:

- report insights beyond operational and compliance reports

- blend data from external sources

- select metrics and key performance indicators that matter and distribute them through easy to use dashboards or visualization tools

- apply big data concepts to HR questions

- leverage data in the cloud to support predictive analytical capabilities

- increase the use of HR analytics (e.g., strategic reports, dashboards, etc.) by HR business partners and leaders

These analytic applications will start to blend machine learning with analytics so that increasingly more unstructured data can be used.

How HR technology empowers global mobility

Despite the high cost of mobility, global businesses find it strategically advantageous to move employees from place to place. And mobility is increasing sharply, with a greater emphasis on short-term assignments, frequent business visits, cross-border commuting, and virtual working.

At the same time, the regulatory environment is making it more important for HR to know where employees are, but also what type of work they're doing. The risks and penalties of falling foul of increasingly complicated international tax legislation can be punishing. Even short-term business travelers can put employers at risk. And this is no small endeavor to manage. Today, 12% of the workforces in global companies are internationally mobile.

Technologies to support global mobility must not only meet the demands of the business, but also the user experience workers have come to expect. Both require seamless management of immigration information, tax data, travel documents, work permits, visas, and transfer planning. From an HR technology standpoint, the goal is to leverage social, mobile, and cloud-based systems to collect and synthesize data from a variety of sources to determine the traveler's itinerary and identify any tax, immigration, or permanent establishment risks. Demand for these applications and services is growing. At PwC, for example, we've seen a fivefold increase in the user base of our global mobility app, MyMobility, in the last 18 months.

The business objectives for using these technologies, however, center on analytics, so when you are looking for a technology solution, think ahead. Consolidating and linking data such as travel and calendar data with tax and payroll data gives HR a basis for analytics. Yet the real value is in using cloud and machine learning to derive insights and recommend actions to help manage talent, reduce mobility costs, and make work planning more efficient.

* PwC's Moving people with purpose, 2014.

Technologies for your next challenge

Just as transitions to cloud technology require organizational change agility, your business changes at the same rate. And technology must also evolve to address these new challenges. In the Human Resources space, there is constant pressure to be more efficient and to add more value. New technology is already playing a vital role in helping tackle these issues.

PaaS extensions: While our survey found that only 16% of HR cloud customers were taking advantage of this today, we predict the development of HR functionality extensions using PaaS will play a role in nearly all projects as more and more large enterprises—with unique and complex needs—adopt cloud technology. As an example, one of our clients had a unique "team award" process where team members could nominate themselves and others, with a supporting business case, for monetary year-end awards. The process provided for numerous opportunities for approvers to review and revise before the final sign-off. Since this functionality was not part of the delivered cloud compensation application used by the organization, PaaS was used to build the needed functionality. A process that was going to require a manual work-around or "one-off" application can now be automated and integrated as an extension of the delivered cloud application.

Robotic Process Automation: Robotic Process Automation (RPA) is software that lays the foundation for machine learning and future applications of artificial intelligence. Where rules and logic can be applied, the software can conduct a task with far greater efficiency and with fewer errors. RPA is relatively easy to deploy and is particularly useful for HR tasks related to the processes that span multiple systems. For example, the action of onboarding, transferring, or off-boarding an employee may trigger process steps in benefits, payroll, identity management and up to fifty other systems. An RPA application can be programmed to trigger these steps to increase efficiency. To maximize value with RPA, a few key implementation principles need to be kept in mind: choose processes that maximize productivity or are front-end processes that would benefit from a reduction in human error, automate as much as possible, and aim for 100% auditability.

Predictive analytics: If you can predict voluntary attrition you can prevent it. Reducing attrition by just 1% in an organization of 5,000 employees with an attrition rate of 10% can save approximately $3.75 million. And that's just one use of predictive analytics. Building the statistical models to predict an outcome is the relatively easy task. More difficult is the behavioral change needed to act on the predictions. Testing each model is important, too. Pilot studies should be done to review the validity of predictions against actual behavior. Predictive analytics is a largely untapped opportunity today. In our survey, only 24% say predictive analytics is a priority for the next year.

Artificial Intelligence (AI): Business leaders believe that AI will be a key contributor to gaining a business advantage in the future.[3] Applications in HR can range from avoiding gender bias in recruiting to predicting turnover or profitability through sentiment analysis of call records, social media data, or other internal data. Most HR software vendors will soon release products that will help hiring managers decide which candidates to pursue for a given job and what attributes in their profile might be a good fit. They'll even suggest what interview questions to ask. AI will be able to do this by analyzing the data of employees who are already succeeding in the company and comparing these attributes with those in the candidate pool.

www.pwc.to/HRTech

About this survey

PwC surveyed Human Resources and supporting IT practitioners from November 2016 to February 2017. Three hundred and seven organizations from over 30 different industries headquartered across 40 different countries participated. The size of their workforces ranged from under 1,000 employees to over 300,000 and revenues ranged from under $500 million to over $5 billion.

How PwC can help

For a deeper discussion about how HR technology can enable new ways of working and increase employee engagement, contact us:

Author
Dan Staley
Principal, PwC
Office: +1 678 419 1802
Mobile: +1 770 331 7417
dan.staley@pwc.com

Please reach out to our People and Organization leaders to discuss this or other challenges.

Jeff Hesse
Principal, US People and
Organization Co-Leader
+1 312 298 6881
jeff.hesse@pwc.com

Scott Olsen
Principal, US People and
Organization Co-Leader
+1 646 471 0651
scott.olsen@pwc.com

Contributors

The following PwC professionals contributed their experience and knowledge to produce this report.

Rishi Agarwal
Principal—People Analytics, PwC
Office: +1 408 817 5101
Mobile: +1 408 872 2544
rishi.agarwal@pwc.com

Ben Bahrenburg
Principal—Global Mobility
Technology
Office: +1 408 808 2747
benjamin.bahrenburg@pwc.com

Peter Clarke
Principal —Global Mobility/
International Assignment
Services Leader, PwC
Office: +1 203 539 3826
peter.clarke@pwc.com

Murali Gandi
Director, PwC
Office: +1 314 206 8781
Mobile: +1 847 226 2364
murali.gandi@pwc.com

Grant Waterfall
Global Cybersecurity and Privacy
Assurance Leader
Office: +1 646 471 7779
grant.waterfall@pwc.com