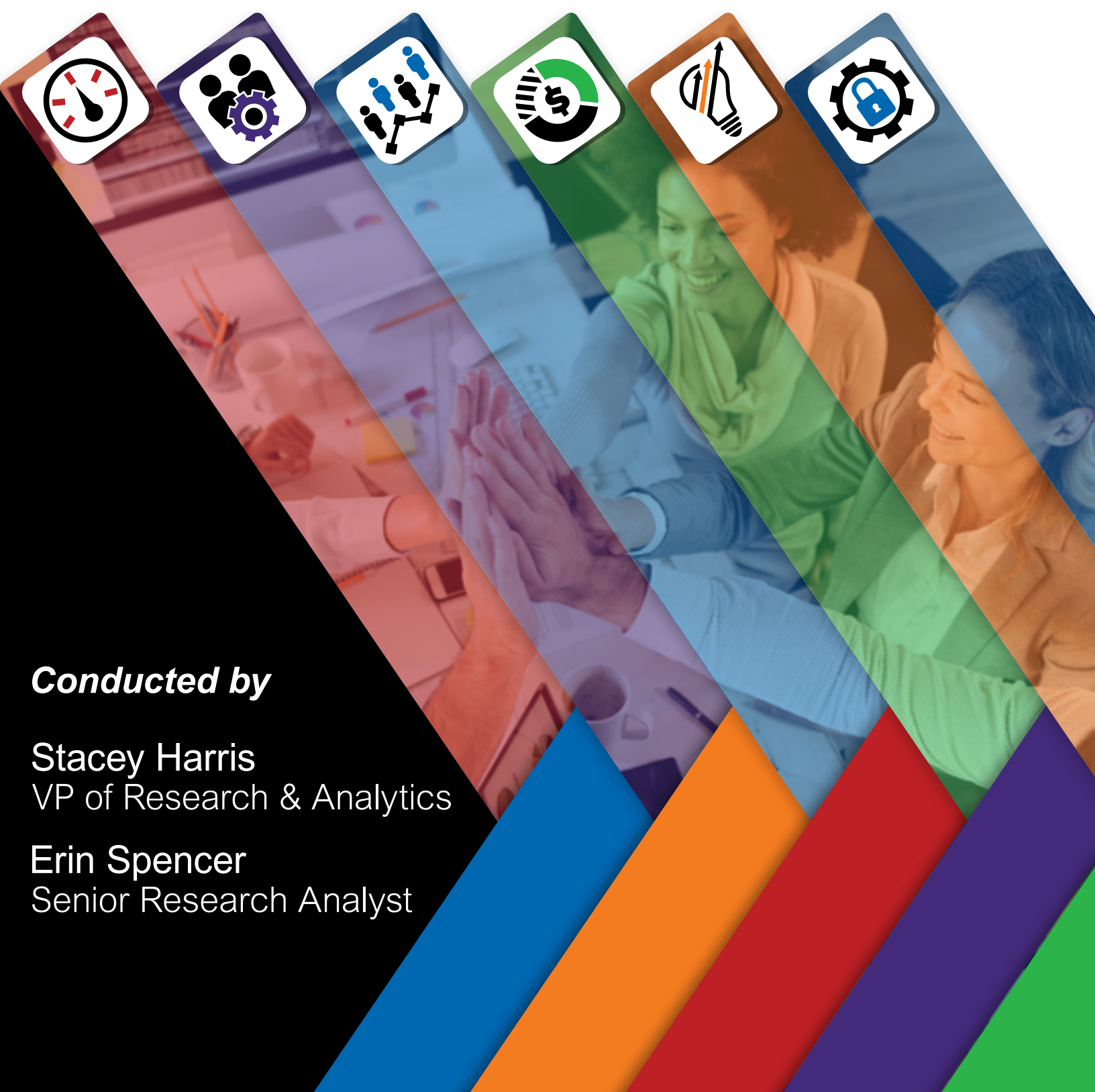# Sierra-Cedar

2018–2019 HR Systems Survey
21st Annual Edition

Conducted by

Stacey Harris
VP of Research & Analytics

Erin Spencer
Senior Research Analyst

Information contained in this Survey analysis is compiled and analyzed by Sierra-Cedar as part of the organization's commitment to provide thought leadership on Human Resources technologies, trends, and the impact their adoption has on business outcomes. This report cannot be publicly posted in its entirety without explicit permission; however, Sierra-Cedar encourages customers, media, partners, analysts, and other readers to quote from and share liberally the information found herein with appropriate credit provided to Sierra-Cedar. Please credit all quotes and references from this publication as "Sierra-Cedar 2018–2019 HR Systems Survey White Paper, 21st Annual Edition" on first reference. All subsequent references should read "Sierra-Cedar 2018–2019 Survey White Paper." Please contact us for review and approval if you would like to use a graphic image contained in this publication.

To participate in next year's research and receive an early copy of the Annual HR Systems Survey White Paper, please submit your email address in the form at www.Sierra-Cedar.com/annual-survey.

To request a media interview, please email us at HRSystemsSurvey@Sierra-Cedar.com.

To learn more about additional research efforts conducted by Sierra-Cedar, please visit the Research section of our website at www.Sierra-Cedar.com/research.

The Sierra-Cedar 2018–2019 HR Systems Survey White Paper
21st Annual Edition

Conducted by

**Stacey Harris, Vice President of Research & Analytics
and
Erin Spencer, Senior Research Analyst**

Breakout Legend

Organization Sizes

Small
<2,500

Medium
2,500–10,000

Large
10,000+

Aggregate

Outcome Driven Organizations

Top Performing

Data Driven

Talent Driven

Socially Responsible

Replacement Plans

No Plans

Evaluating

Replacing in 12 Months

Replacing in 24 Months

Generational Compositions

Greatest Generation
1930–1945

Baby Boomers
1946–1964

Gen X
1965–1980

Millennials
1981–2000

Gen Z
2001–2010

Deployment Platforms

All Cloud

Hybrid

On Premise

Other

Regions

NA North America

EMEA Europe, Middle East, Africa

APAC Asia Pacific

Table of Contents

Executive Summary

The *Sierra-Cedar 2018–2019 HR Systems Survey White Paper, 21st Annual Edition* is the latest research installment of the longest running, most widely distributed, and most highly participative research effort in the Human Resources (HR) industry. Since 1997, this invaluable resource has been a catalyst for the HR technology community, providing insight and guidance to practitioners around the world. The Sierra-Cedar HR Systems Survey stands alone as a global benchmark of HR technology adoption and the value achieved from the use of these technologies, seen through the eyes of HR Information Technologists (HRIT) and Information Technologists (IT).

This year's White Paper covers adoption and trends for applications, deployment options, Voice of the Customer vendor feedback, expenditures, and value achieved for the categories of applications listed below. Throughout the report, we suggest implications and recommendations for both practitioners and vendors.

- Administrative applications:
  - Core Human Resource Management System (HRMS)
  - Payroll
  - Benefits
- Service Delivery applications:
  - Employee Self Service (ESS)
  - Manager Self Service (MSS)
  - Help Desk
  - Portals
- Workforce Management (WFM) applications
- Talent Management (TM) applications
- Social- and Mobile-enabled applications
- Workforce Intelligence (WI) solutions
- Emerging Technologies

Additionally, we cover insights on supporting HR practices:

- HR Systems Strategy
- Adoption Blueprint
- Integration practices
- Service Delivery models
- Security and Data Privacy
- Implementation practices
- Change Management practices
- Expenditure and Resourcing strategies

The Survey was conducted from April 4th through June 8th, 2018. The *Sierra-Cedar 2018–2019 HR Systems Survey White Paper* is based on 1,636 unique organizations representing a total workforce of 23.6 million employees and contingent workers.

2018–2019 HR Systems Survey Key Themes

Strategy

- 80% of organizations with an HR Systems Strategy are perceived as strategic business partners when compared to those Without a Strategy. If HR is looking for a seat at the executive decision-making table, HR technology will secure its invitation.
- Regardless of HR applications or specific vendors, standards and processes have a more significant influence on all Business Outcomes.
- As organizations move HR technology environments entirely to the Cloud, per employee spending increases 29%, on average; however, this increase includes 43% more HR applications.
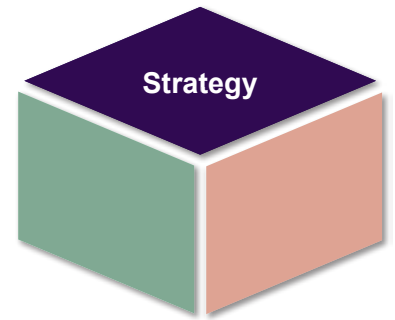
Culture

- What gets measured gets attention: key measurements include Turnover and Recruiting for Top Performing organizations; Compensation for Socially Responsible organizations; and Demographics, Performance, and Learning for Talent and Data Driven organizations.
- Organizations report that Talent Management applications experience the highest percentage of functionality gaps and the lowest vendor User Experience (UX) ratings for this HR application area.
- Employees expect a more personalized technology environment, similar to the UX provided by Amazon and Netflix. This consumerization of HR technology increases adoption by providing multiple touchpoints such as chatbots, text messaging, and intelligent voice capabilities.
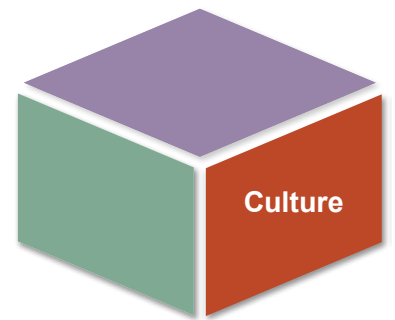
Data Governance

- Do you understand your workforce Data Footprint? Organizations are capturing employee data via Social media, GPS trackers, wearables, surveys, etc. in increasingly larger amounts; Emerging Technology organizations leverage this information more effectively, but the ethical use of this data must be addressed by all.
- The strategic importance of the HRIT role continues to be apparent in our research. In all Cloud environments, these roles are 1½X more likely to be responsible for Data Security and Configuration Decisions over IT or Functional roles and are the second most likely roles to be added in the next 12 months.
- Organizations are laying the foundation for Intelligent Platforms with building blocks consisting of Benchmarking tools, Sentiment Analysis, Machine Learning, Robotic Process Automation (RPA) tools, and Blockchain technology.
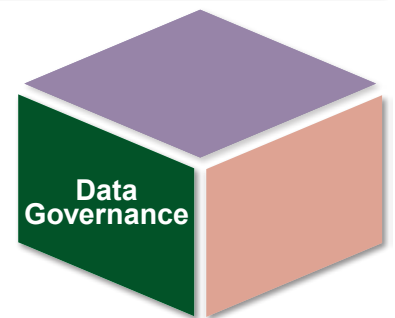
Sierra-Cedar Human Capital Management

Sierra-Cedar HR Systems Survey and HCM Blueprint

For the *Sierra-Cedar 2018–2019 HR Systems Survey,* we asked questions on six primary categories and 54 individual application areas, including the Emerging Technology areas that are detailed in the **Sierra-Cedar Human Capital Management (HCM) Blueprint.** The Survey also gathers details concerning HR System Strategies, processes, vendors, implementation, Change Management, security practices, expenditures, and supporting resources.

Figure 1: Sierra-Cedar HCM Blueprint

Over the last two decades, we've seen pathways of application adoptions emerge as we follow respondent organizations through their annual plans for adopting and implementing HR applications. Some organizations have a clear strategy for how they purchase and implement their HR systems; others exhibit an organic-growth model based on immediate needs and funds. Every organization should take the path that best suits its individual situation based on organizational strategy, Culture, and unique approach to data management when navigating an HR Systems Blueprint. For 2018, we've updated the Sierra-Cedar HCM Application Blueprint to more accurately reflect recent shifts in the technology ecosystems we've followed since the Survey's inception 21 years ago.

Square One: Strategy, Culture, Data Governance

Three foundational elements are at the center of the HCM Application Blueprint:

- Strategy
- Culture
- Data Governance

Figure 2: Blueprint Foundation

It becomes necessary to have an Enterprise HR Systems **Strategy** for the adoption, integration, and configuration of these solutions as HR Systems shift from administrative support tools to strategic instruments finely tuned to engage and optimize the workforce. Organizations should consider the long-term impact systems will have on their workforce as HR applications are now at the center of an organization's ability to manage workforce productivity and enterprise Culture, while governing the use of highly valuable but sensitive workforce Data. The over-arching management of these foundational elements throughout the organization requires an Enterprise Strategy.

Organizations often focus solely on specific functionality desired from HR technology and supporting processes but may overlook how that functionality will actually work within their unique **Culture.** Technology is worthless unless it's used—it must fit within the context of how an organization operates to optimize the organization's investment. HR application adoption requires significant energies—including executive sponsors and Change Management efforts—for a truly successful implementation. Taking an honest look at your organization's Culture will help determine the best Strategy to use when purchasing technology.

The footprint of workforce data goes beyond business applications—it extends into social networks, mingles with environmental tools, and overlaps with personal profiles. The responsibility of an organization to safeguard the professional and personal information of its workforce cannot be ignored; how you capture, access, use, protect, and eventually purge data must be a major factor in the design of your HR technology ecosystem. **Data Governance** must also include an understanding of how to achieve the most value from your workforce data while adhering to ethical and legal standards.

Technology Task Force: Application Environments

Surrounding the foundational elements are six primary categories of Enterprise HR System Applications:

- Administrative
- Service Delivery
- Workforce Management
- Workforce Intelligence
- Emerging Technology
- Talent Management

Figure 3: Blueprint Applications

Creating and maintaining your organization's HR applications ecosystem is a complex process, involving integration efforts, User Experience expectations, and workforce behavioral changes. These discussions are crucial when building your HR technology ecosystem.

Getting the Basics Right:
Administrative Applications

Most organizations start their HCM application journey by deploying Administrative applications, primarily in the form of a Payroll solution—over 96% of our HR Systems Survey respondents have a Payroll solution in place. Most often Payroll solutions are implemented with an HRMS, but some organizations use a Payroll system alone—leveraging its basic data-capturing capabilities in place of an HRMS until their needs expand. Over 90% of surveyed organizations currently have an HRMS in use today. For most organizations, the HRMS sits at the heart of their HR and workforce data management needs, sharing data with multiple HR applications.

As organizations grow and become more complex, an HRMS becomes necessary to manage the regulatory and data management needs of their enterprise workforce; increasingly smaller organizations are finding it necessary to implement an HRMS. Organizations with a history of regional expansion or mergers and acquisitions often have multiple Payroll and HRMS applications in use to meet the needs of various workforces and regions.

The Benefits Administration application is also highly adopted, but often fully outsourced—through Total Benefits Outsourcing (TBO). In countries where Healthcare is not generally offered through employers, Benefits applications are still in use and may manage regionally required or culturally expected benefits such as housing, car allowances, or personal services offered as a benefit to the employee.
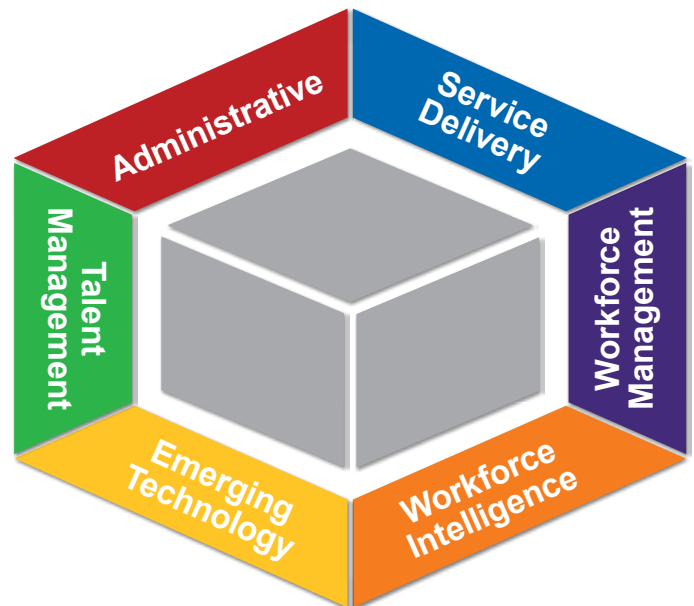
User Experience: HR Service Delivery Applications

When organizations have Payroll, an HRMS, and Benefits Administration in place, they naturally achieve some level of Administrative efficiency for their HR function, but as organizations increase in size and complexity they also need to consider the employee-facing elements of their HR ecosystem. Self-Service applications including Employee and Manager Self Service, HR Help Desks, Portal technologies, and other employee communication platforms are critical data collection and information sharing applications. Organizations that focus on the adoption of Service Delivery applications often see higher levels of employee engagement and system adoptions, increasing the number of people each HR administrate role can support. These applications are also significantly influenced by the trends for increased Mobile enablement and consumerization of HR practices.

Business-Driven Applications: Workforce Management, and Talent Management

Workforce Management (WFM) and Talent Management (TM) application adoption tightly connects with an organization's business needs, although the initial adoption of these applications may be in response to a specific operational request. WFM tools provide operational oversight to areas such as Time and Attendance, Scheduling, and Absence and Leave Management. TM applications provide operational oversight for areas such as Recruiting, Onboarding, developing, compensating, and transferring critical talent within a workforce. Many of these WFM and TM requirements can be handled manually by smaller organizations, but quickly become system priorities for those managing large workforces, multiple projects, or fast growth. Although these two areas may seem separate in their focus, they work hand in hand for organizations focused on balancing business needs with employee aspirations—and are also tightly connected to employee Culture and engagement.

Increasing Value: Workforce Intelligence

Adoption of the Administrative, Service Delivery, WFM, and TM applications provides an organization with clear benefits in the areas of HR efficiency and process management. However, the real value of these systems can be realized in data analysis to provide Workforce Intelligence (WI) as HR data maps to business data. Further analysis can provide insights into workforce decisions that directly impact Business Outcomes.

Workforce Intelligence applications as a category is still in its infancy; it currently exists as a combination of enterprise platform technologies, embedded analytics solutions inside HR applications, and standalone data cleansing and analytics tools such as Microsoft Excel, report builders, or statistical tools. We also see a growing number of sophisticated dedicated HR/Business Intelligence solutions mixing services and analytics technology together to analyze and visualize large amounts of enterprise data. Some organizations analyze data directly in the various HR systems, while others extract data into other platforms or databases designed specifically for data analysis. These applications can be focused solely on workforce intelligence efforts or share space with other enterprise business analytics needs. These solutions can optimize current workforce intelligence efforts. Tools such as predictive analytics give insight into possible futures, visualizing levels of workforce planning based on scenario planning and benchmarking using an organization's internal and external data.

No System is an Island: Connecting Data and Workflows

Surrounding the six Enterprise HR System Applications in the gray outer layer of the Blueprint are enterprise standards that play a major role in the success or failure of application investments. These standards interface with multiple Enterprise System Environments. HR solutions cannot exist separately from an organization's Content Strategy, Data Privacy, Workflows, Work Models, Integration Strategy, Platform Strategy, Mobile Strategy, Network Security, Cyber Security, and Social Strategy. Connecting HR systems to enterprise standards allows organizations to seamlessly and safely embed HR solutions into everyday work environments.

Figure 4: Blueprint Connections
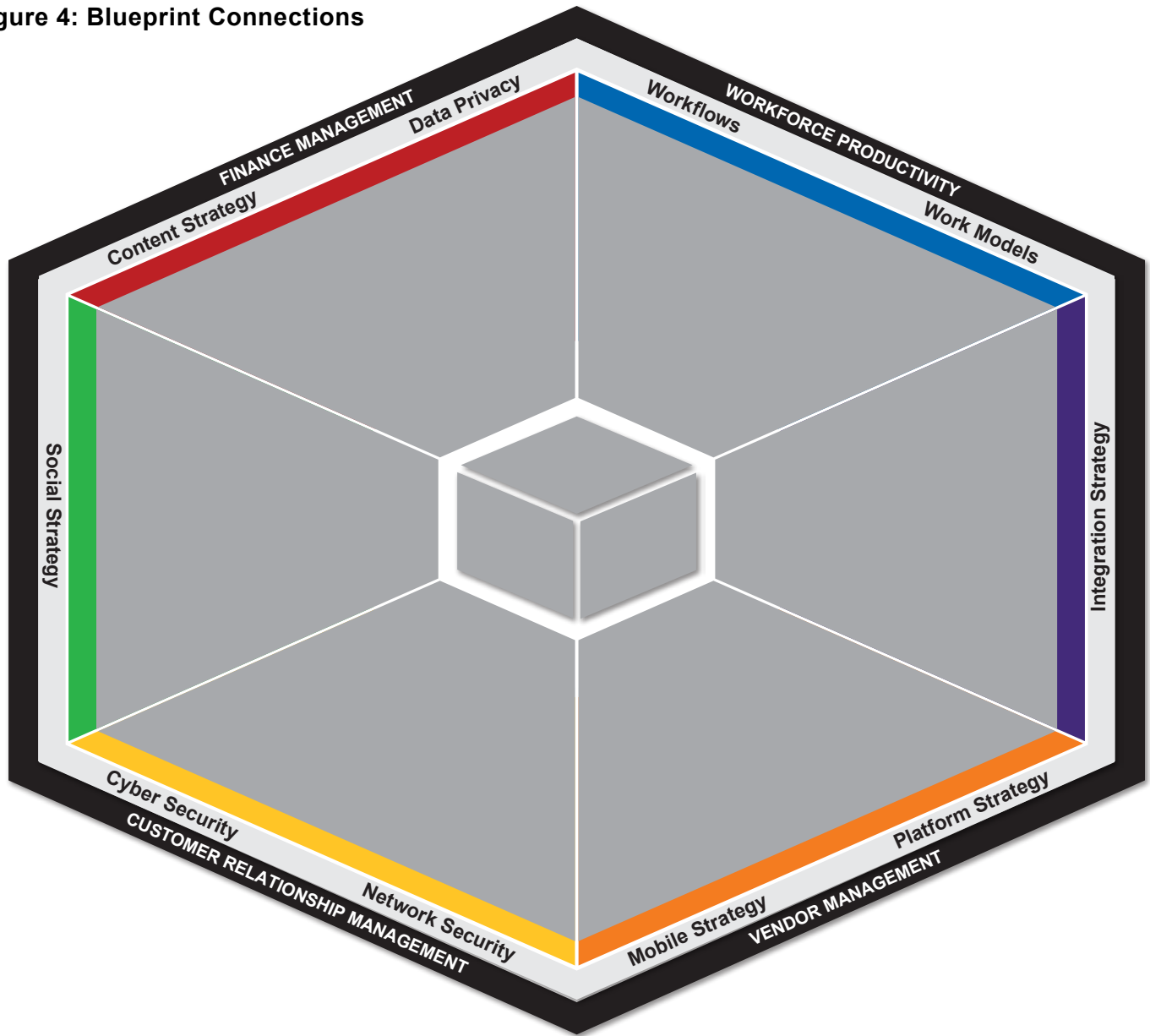
HR technologies coexist in a larger ecosystem represented by the black outer rim of Finance Management, Workforce Productivity, Customer Relationship Management, and Vendor Management. These environments, where work occurs and additional workforce data is captured, require connections with HR applications to enable desired organizational outcomes. The Blueprint contains interrelated elements, each touching a part of the other. This environment works best when considering the inherent connection points of an entire HR technology ecosystem—those connection points are as important as individual applications. The Sierra-Cedar HCM Blueprint can spark conversations on which interrelated elements to include in your organization's Strategy.

Outcome Driven HR

The Survey asks organizations to indicate whether a series of HR, Talent, and Business outcomes have declined or improved over the last 12 months. In addition to these outcome questions, we independently gather financial metrics for all publicly traded organizations responding to the Survey. We then compare multiple organizational aspects across the outcomes matrix and financial data as a way to compare different organization types. As the research has expanded, we've widened our scope beyond financial metrics and begun to look at behaviors to categorize organizations based on specific criteria influencing their decision-making processes.

Each of these Outcome Driven organization types creates its own level of innovation—from processes, to people, to technology adoption strategies—supporting the view that there are multiple ways to reach Business Outcomes while staying true to an organization's unique Culture and capabilities. The figure below illustrates demographic data for the different types of organizations used for this Outcome Driven analysis.

Figure 5: Top Performing, Talent Driven, Data Driven, and Socially Responsible Organizations

Top Performing	Talent Driven	Data Driven	Socially Responsible
Decisions based on Performance	**Decisions based on Talent**	**Decisions based on Data**	**Decisions based on Social Responsibility**

Top Quartiles
• Revenue per Employee
• Profit per Employee
• Operating Income Growth (1 year)
• Return on Equity
	• Mature Career Planning
	• Succession Management
	• Metric Outcomes
	  - Employee Engagement
	  - Retention Risks
	  - Top Talent
		• Mature Workforce Analytics
		• 3+ Metrics
		• 20%+ Managers/BI
		• 3+ Data Sources
			• Diversity
			• Family Leave
			• Flexible Schedules
			• Wellness
			• Engagement

SMALL 39%	49%	52%	63%
MEDIUM 26%	20%	21%	13%
LARGE 35%	31%	27%	24%
Employees **Avg. Total:** 14,332 **Range:** 80–112k	**Employees** **Avg. Total:** 22,007 **Range:** 50–313k	**Employees** **Avg. Total:** 24,062 **Range:** 40–313k	**Employees** **Avg. Total:** 17,446 **Range:** 30–141k
67% Global	56% Global	39% Global	43% Global
Avg. # of Countries: 21	Avg. # of Countries: 25	Avg. # of Countries: 28	Avg. # of Countries: 14

HR Focus, Outcomes, and Impact

Once the benchmarking index questions were selected and adequate sample size was collected for analysis, we then analyzed responses from the Outcome Driven organization categories. When participants answered the determining questions for this categorization—or in the case of Top Performing, all publicly traded organizations—but did not meet the qualifications to be a Top Performing, Talent Driven, Data Driven, and/or a Socially Responsible organization, we share their answers as a comparison group. Once organizations were categorized appropriately, we were able to compare multiple variables that include the following:

- Financial and Business Value Outcomes
- Key Practices (process, technology, and people)
- HR, Talent, and Business Outcomes

Top Performing organizations are at the top 20% of our publicly traded organizations' financial metrics for this year; these metrics include Revenue per Employee, Profit per Employee, Operating Income Growth, and Return on Equity. Financial stability is a critical metric for any organization, but we also wanted to assess other metrics such as perception factors, Talent Outcomes, HR Outcomes, and ultimately long-term Business Outcomes that would highlight both Private and Public organizations with stable, forward-looking directions.

The first analysis we undertake involves reviewing business leaders' perception of the strategic value of their HR function—from whether it's viewed as a Compliance-based function to its being viewed as a Strategic Business Partner that adds value to Business Outcomes. The chart below shows the comparison analysis for these factors across our four Outcome Driven organizations. Top Performing HR functions were viewed as providing the same value as Public non-Top Performing HR functions; however, for Talent Driven, Data Driven, and Socially Responsible organizations, we find a considerably higher percentage where the HR function is viewed as a strategic business partner. The respect and perceived value of HR plays a major role in the ability to help an organization achieve various organizational goals.

Figure 6: Strategic Value

Top Performing: Δ-.01% — 53% / 54%
Talent Driven: Δ59% — 59% / 37%
Data Driven: Δ58% — 62% / 39%
Socially Responsible: Δ53% — 66% / 43%

■ Everyone Else
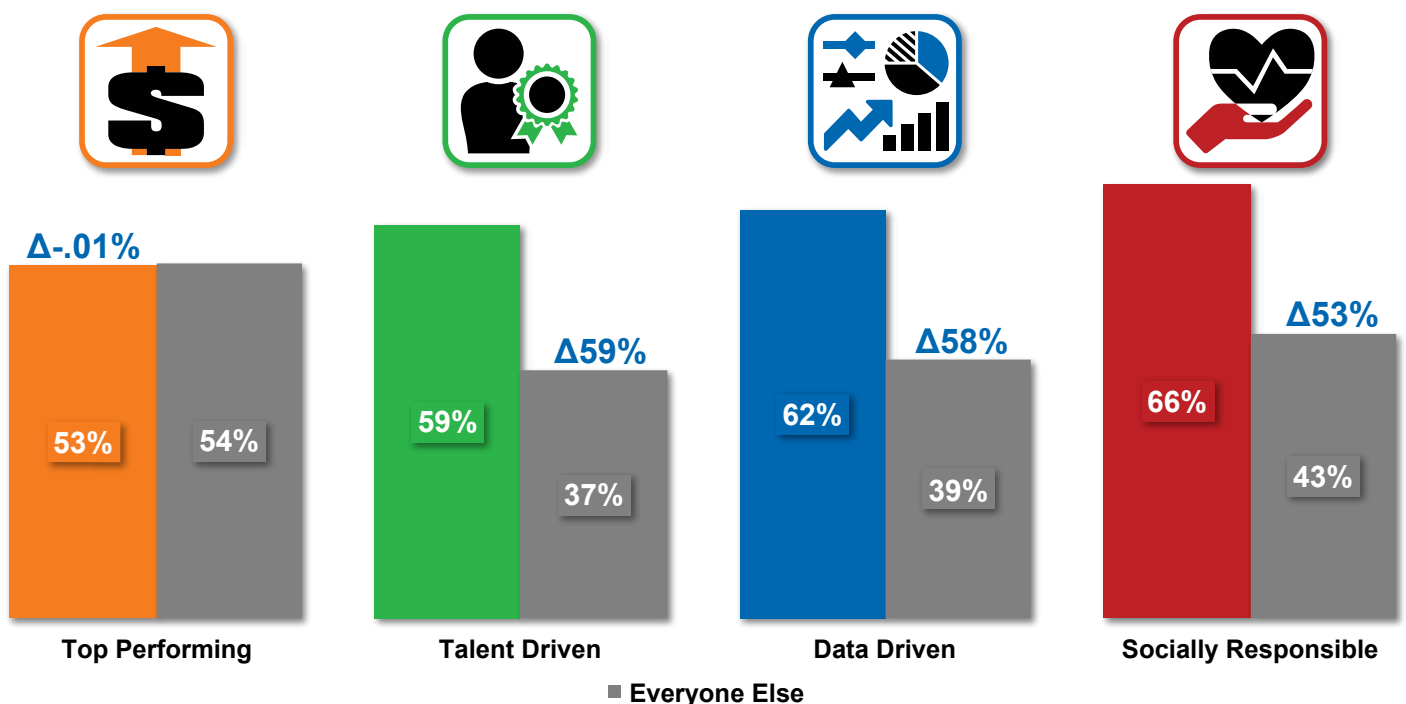
When looking at these organizations along our Outcomes matrix, we run a comparison of each organization type and show the comparison with our aggregate data set. Specific outcomes were not included in index selection questions; rather, we looked for practices that were believed to have an impact on Talent, HR, and Business Outcomes. This analysis illustrates the most significant differences across the four groups. Here our Socially Responsible, Talent Driven, and Data Driven organizations achieve considerably higher outcomes than our aggregate and even Top Performing organizations, particularly for Business Outcomes which support the long-term sustainability of an organization.

Figure 7: Achieving Outcomes Requires Focus
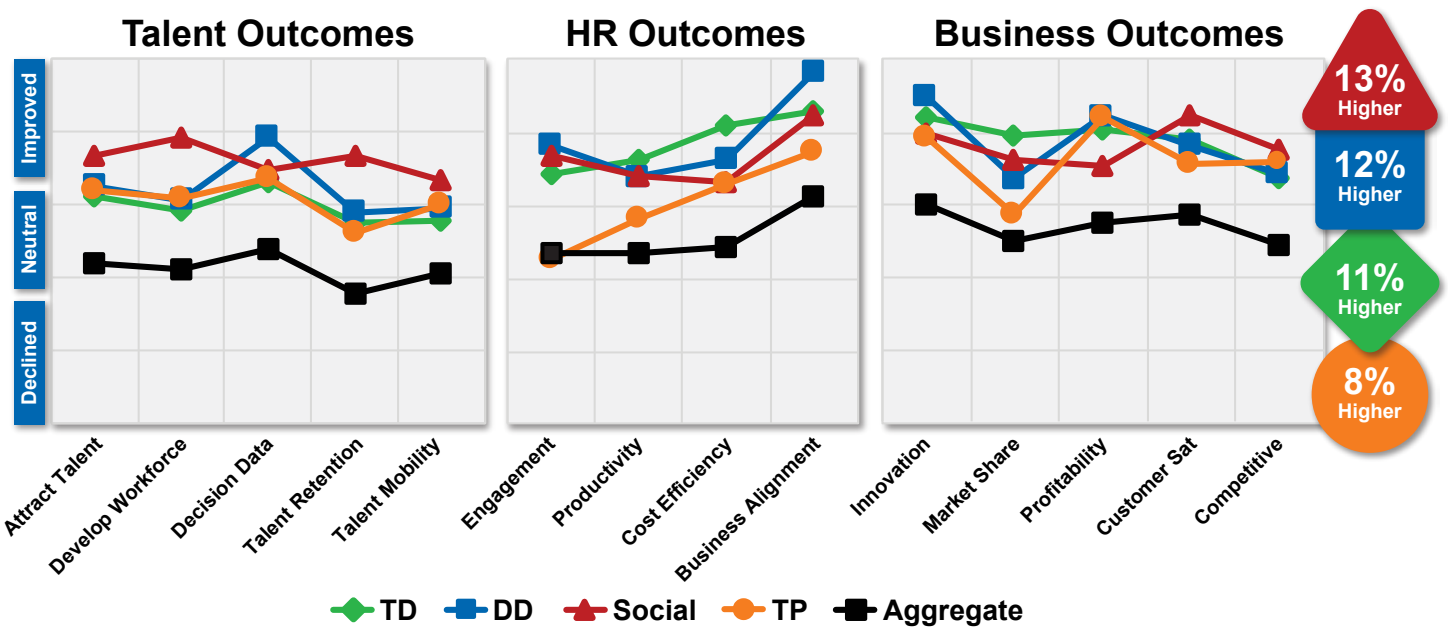
Socially Responsible organizations had the highest outcomes overall, 13% higher than the aggregate data set; Data Driven organizations were 12% higher followed closely by Talent Driven organizations at 11%, and although Top Performing organizations did exhibit some improved outcomes, overall their outcomes were just 8% higher than the aggregate data set.

This analysis provides insights on the type of organizations you may look to benchmark against over time. Depending on your own organization's business model and Culture you may find that certain approaches to reaching your desired outcomes are more realistic, and in some cases may provide better long-term success.

Lessons from the Outcome Driven Organizations

The practices of Outcome Driven organizations provide valuable insight into how they maintain their advantage in today's insight-driven world. This year, we identified the most highly correlated factors which include applications, processes, and resourcing for each of these organizations.

Figure 8: Top Statistically Significant Factors across Various Outcome Driven Types

Top Performing	Talent Driven	Data Driven	Socially Responsible

• **Changing HRMS in 12 Months**
 	
 • **Mobile-enabled HR Tech**
 	
 • **Increase Budget in Help Desk/Portals**
 	
 • **Shared Services, Regional Operations**
 	
 • **Centralized:**
   - Data Privacy Standards
   - Labor Regulations
   - Benefits
   - Employee Relations
 	
 • **Investing in Artificial Intelligence, Machine Learning, and RPA**
	• **Transformational Process:**
	   - Business Intelligence
	   - Profile Management
	   - Workforce Planning
	   - Onboarding
	   - Compensation
	
	 • **Applications in Use**
	   - BI/Workforce Analytics
	   - Career Planning
	   - Predictive Analytics
	   - Statistical Tools
	   - Sentiment Analysis
	
	 • **Evaluating Machine Learning and Blockchain**
		• **Transformational Process:**
		   - Business Intelligence
		   - Workforce Reporting
		   - Performance Management
		
		 • **Applications in Use**
		   - Data Lakes
		   - Embedded TM Analytics
		   - Profile Management
		
		 • **Excellent Wellness Programs**
		
		 • **Higher # of Ways They Interact with Employees**
		
		 • **Machine Learning In Use**
			• **Higher # of Metrics Used in HR Analytics**
			
			 • **Higher Use of Emerging TA Tech**
			
			 • **Transformational Process:**
			   - Business Intelligence
			   - Learning & Development
			
			 • **Applications in Use**
			   - Succession Planning
			   - BI/Analytics Planning
			   - Career Planning
			   - Profile Management
			
			 • **Cloud-based Vendor Management System**

Innovation comes in many formats, the least of which is simply ***new and bigger*** technology. The next generation of technology is being designed to inform our decisions and simplify our activities; it is meant to be invisible and ubiquitous in our lives and expected to perform as an intelligent system. The line between what organizations want and what they can do may come down to the focus they place on particular areas of their HR Systems Strategy.

HR Systems Strategy and Culture

Message Received?

As HR Systems shift from administrative support tools to strategic instruments finely tuned to engage and optimize the workforce, adoption, integration, and configuration of modern, intelligent solutions require an Enterprise HR Systems Strategy to guide and inform data management and corresponding business decisions.

Figure 9: HR Systems Strategies Increase
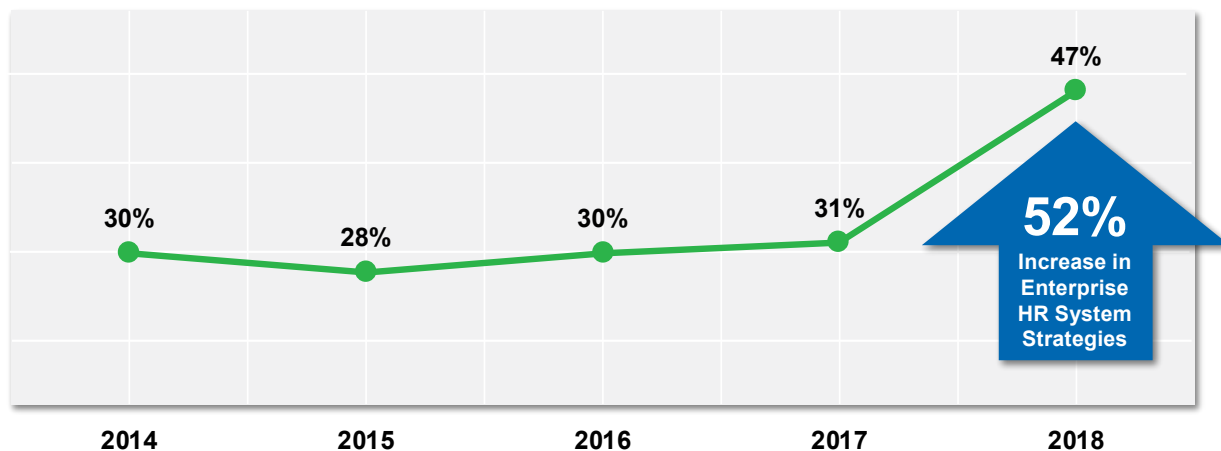
Overall Enterprise HR Systems Strategy deployment increased in 2018, particularly for Small organizations; in 2017, just 26% had a Regularly Updated Strategy, compared to 41% today. Although this group continues to be the least likely to have a Regularly Updated Strategy, when combined with those organizations reporting a Strategy In Development and those with a Rarely Updated Strategy, almost 75% are currently engaged with Strategy work. Large and Medium organizations make up the bulk of those with a Strategy that is Regularly Updated or Developing their Strategy; 8% of Large organizations have No Plans for a Strategy compared to 16% of Medium and 27% of Small. We also found slight statistical significance in the relationship between organizations with Total Cloud environments and an increased likelihood of having a Regularly Updated HR Systems Strategy.

Figure 10: HR Systems Strategies by Size
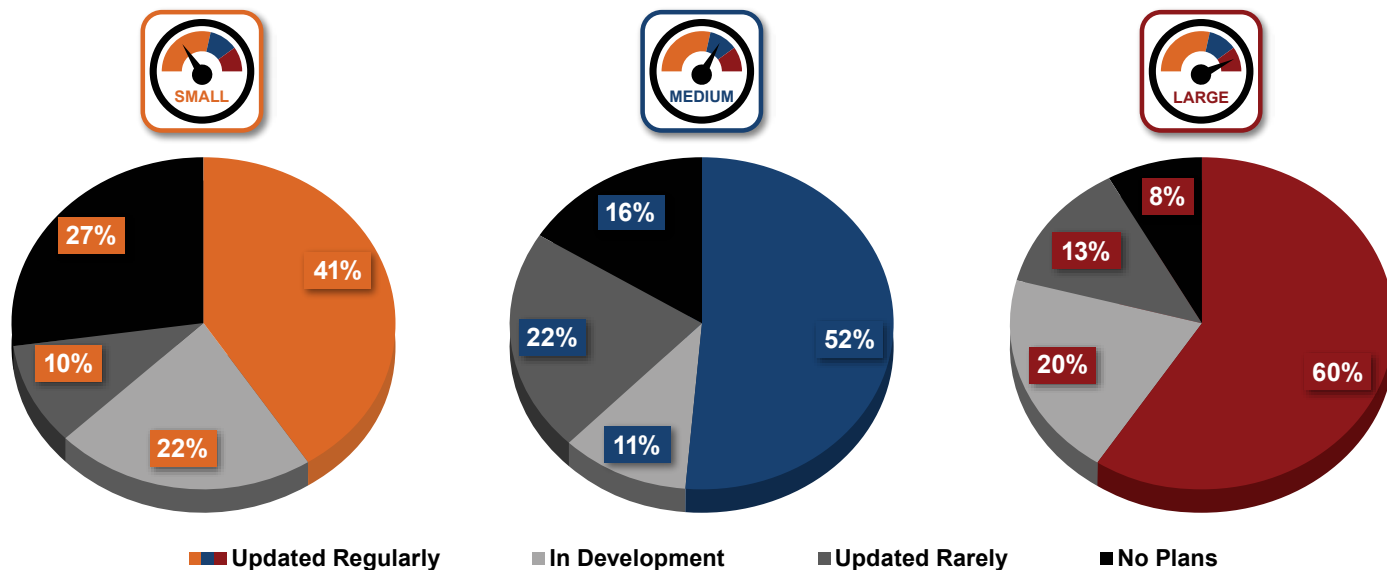
The value of Enterprise HR Systems Strategies can be seen in multiple areas including consistent messaging, clearly defined Business Outcomes, and an improved perception of the overall HR function. Organizations with a Strategy are more likely to be viewed by internal business leaders as having HR functions which Contribute Strategic Value to their organization, while those with No Plans for a Strategy are more likely to be viewed as having HR functions with simply a Compliance Focus.

Figure 11: HR Perception by Strategy
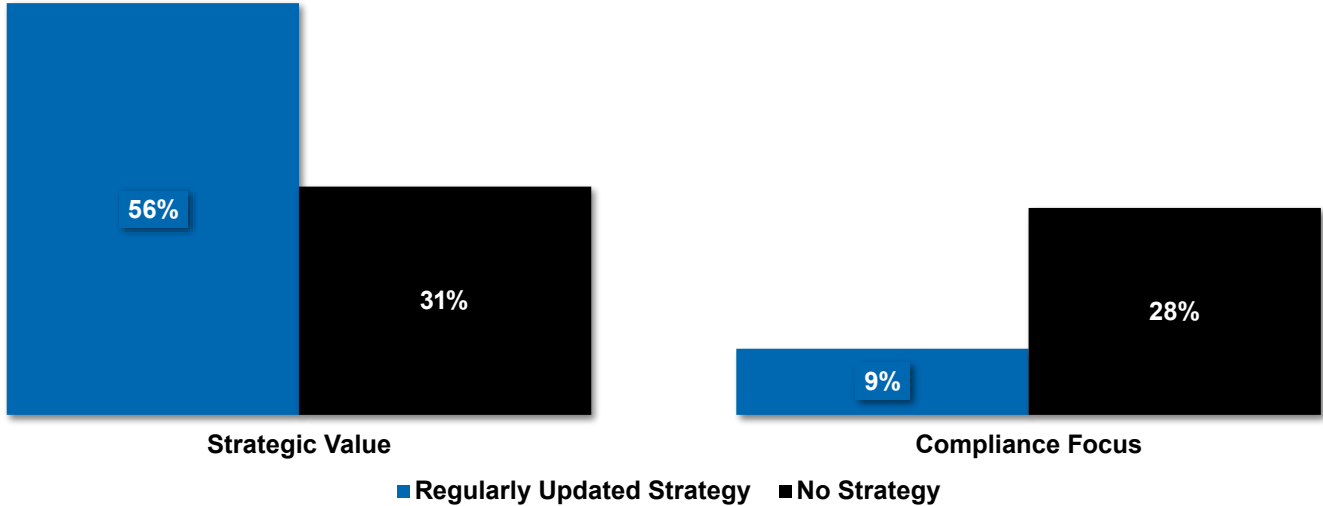
This year, 31% of respondents and 41% of our Top Performing organizations are investing both time and resources in a major HR initiative to create or improve an Enterprise HR Systems Strategy. Both Talent Driven and Data Driven organizations are more likely to have a Regularly Updated Enterprise HR Systems Strategy already in place (44% and 38%) than other Outcome Driven organization types; Strategies allow organizations to align software purchases with business needs when making technology purchases and integrating data. As seen below, data indicates that organizations with an Enterprise HR Systems Strategy achieved 10% higher ratings on their Talent, HR, and Business Outcomes when compared to organizations with No HR Systems Strategy.

Figure 12: HR Systems Strategy Aligns with Higher Talent, HR, and Business Outcomes
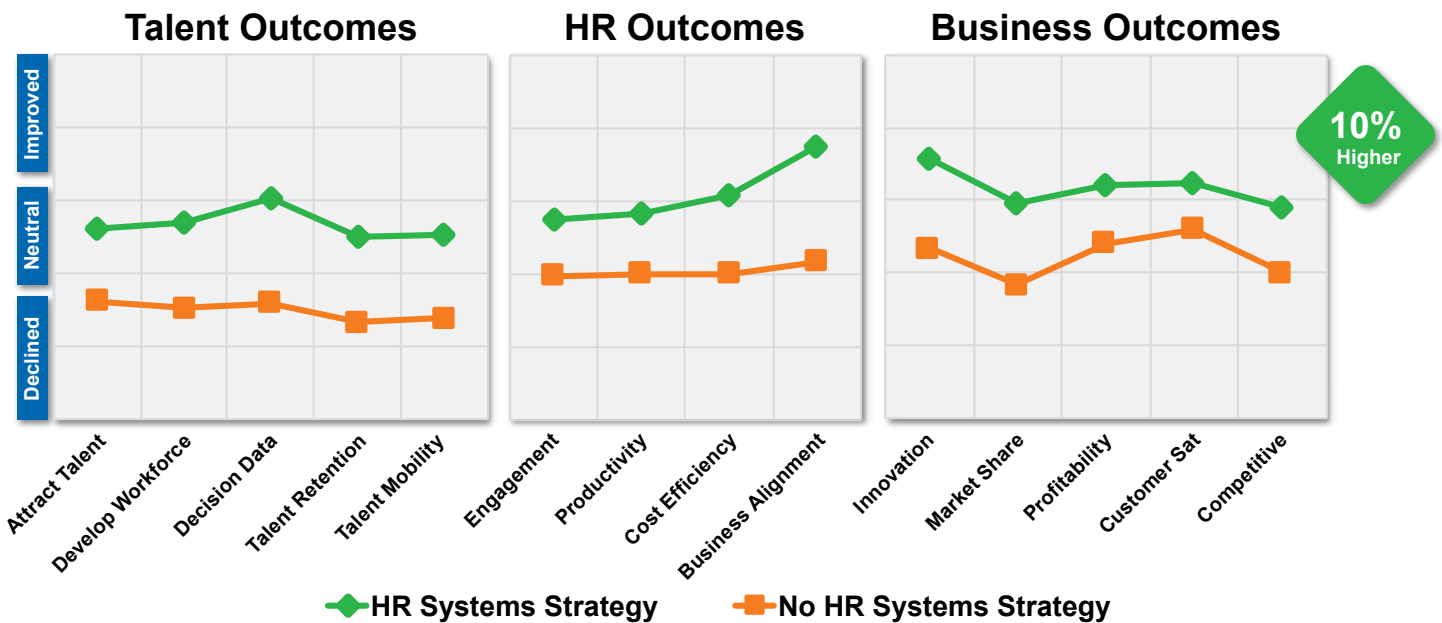
Elements of an Enterprise HR Systems Strategy

We are often asked, "What is generally included in an Enterprise HR Systems Strategy?" and, "How often are these strategies reviewed and adjusted?" Most organizations report that their Enterprise HR Systems Strategies are reviewed annually, with minor adjustments made each year.

We've gathered feedback from our audience on the elements included in an organizational Enterprise HR Systems Strategy and share these insights below. Although this list by no means covers every aspect of a Strategy, organizations can review these elements periodically to better handle internal requests and external pressures on their HR Technology decision-making process.

Figure 13: HCM Systems Strategy Elements

Business/Mission Drivers	Enterprise documentation of the prioritized business outcomes and required Talent and HR outcomes to achieve them. Alignment of Enterprise HCM system gaps that impact those outcomes.
Culture, Scale, and Scope	Careful account of the organization's cultural environment including its approach to enterprise decision making. A detailed understanding of the organization's workforce makeup, locations, and technology access.
Current State Blueprint	A catalog of the organization's current Enterprise HCM systems environment, including applications in use, vendor relationship details, and environmental factors such as privacy, integrations, infrastructure models, etc.
Benchmarking Analysis	Data or analyses of how the organization's current state compares to peer organizations in culture, size, industry, or complexity.
Gap Analysis & Necessary Changes	Gap analysis and recommend changes based on business, talent, and HR outcomes as well as peer benchmarking analysis.
Future State Blueprint	A clear vision of the Future State of the Enterprise HCM systems environment, including adoption expectations, user experience factors, and expected business outcomes.
Phased Roadmaps	Timelines, responsibilities, communication plans, and Key Performance Indicators (KPIs) associated with any approved application changes or updates.
Governance and Change Management	Identified decision makers, ownership models, and guidelines for making ongoing decisions on Enterprise HCM system environments, data management, and privacy issues. Ongoing Change Management and Adoption efforts.
Expenditures and Budgets	Past expenditures and future budgets for Enterprise HCM system environments.
Resources and Outsourcing	Careful account of both internal and external resources, as well as outsourcing agreements that support the Enterprise HCM systems environments.

Enterprise HR Systems Spending

Will spending for HR technologies at your organization increase, decrease, or stay the same for the next year? This question has been answered by HR System Survey respondents since 2012 and this year 42% of organizations report plans to increase spending—a 10% increase over 2017. The positive outlook appears even more promising when considering that fewer organizations plan to decrease spending, dropping from 7% last year to just 4% this year.

Figure 14: 2018 HR Technology Spending Trends Outlooks

- 42% Increase
- 54% Stay the Same
- 4% Decrease

■ Increase ■ Stay the Same ■ Decrease
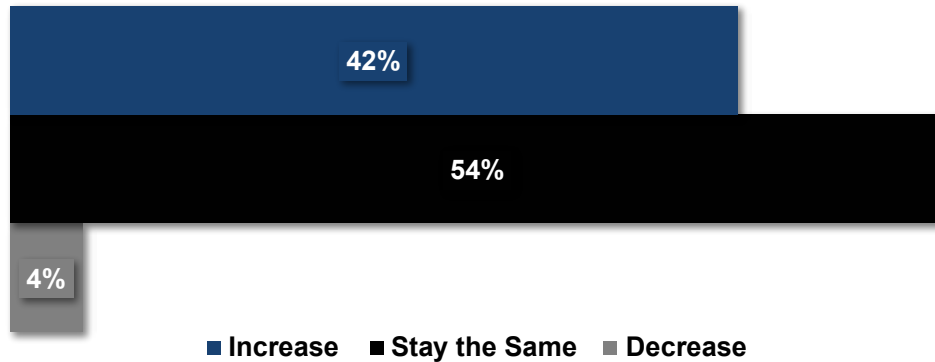
Organizational spending plans vary dramatically by size; therefore, it is an important factor to consider when taking a look at year-over-year trends.

Figure 15: Three-Year HR Technology Spending Trends Outlooks

	2016–2017	2017–2018	2018–2019
SMALL	38% / 57% / 6%	33% / 62% / 5%	38% / 58% / 4%
MEDIUM	51% / 39% / 10%	39% / 53% / 8%	47% / 49% / 4%
LARGE	45% / 47% / 8%	49% / 39% / 12%	48% / 46% / 6%

■ Increase ■ Stay the Same ■ Decrease
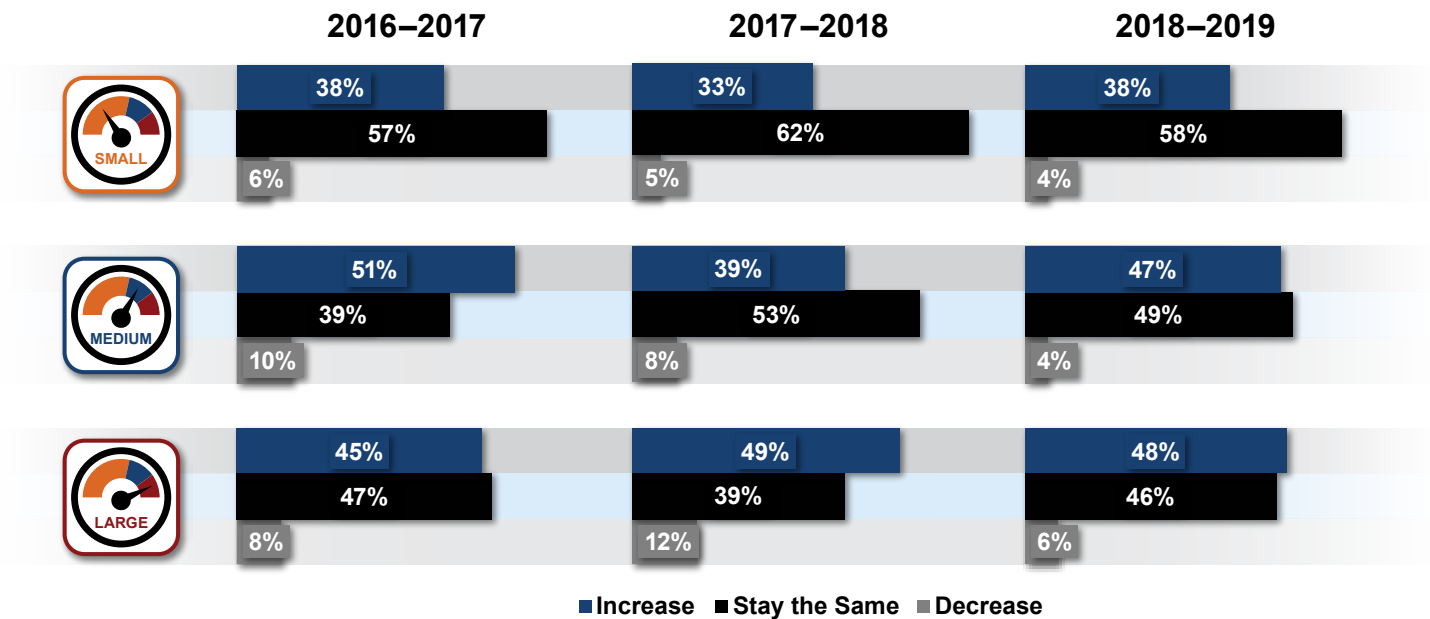
Small organizations are the fastest growing segment of new HR technology buyers, but they are also the most cautious. HR technology vendors will need to continue to provide economical options with high-value outcomes, since 58% of Small organizations are on target to simply maintain their existing HR technology spending.

Medium organizations saw the largest growth in plans for increased HR Technology spending in 2018, with 47% planning to increase their spending—a 20% increase over last year.

Large organizations do plan to increase spending next year, although 48% is a slight decrease from 49% in 2017, but not particularly significant. HR Technology vendors targeting that limited, but often more profitable, group of organizations shouldn't see a huge slowdown in spending over the next 12 months. Perhaps a more important statistic for Large organizations can be seen in the decline in plans for decreasing spending from 12% to 6%.

In response to participant requests, this year's Survey included questions about spending changes for individual HR Technology categories: response data shows that 71% of organizations that plan to change their HRMS in the next 12 months also plan to increase overall HR spending. When organizations reported plans to decrease HR spending, they were most likely to cut Core HR, especially those with no plans to replace their On Premise applications.

When looking at areas for increasing and decreasing HR Tech spending by organization size, Small organizations were more likely to increase spending in Talent Management applications than any other category, while Large and Medium organizations were more likely to increase spending in Core HR and HR Help Desk/Portals. At the same time, Core HR topped the list for decreases in spending by all three sizes of organizations. For Large and Small organizations, the second-most likely area for spending decreases was Payroll.

Figure 16: Areas for HR Tech Spending Increasing and Decreasing

Spending Increase		Spending Decrease
57%	Talent Management	28%
56%	Core HR	58%
41%	Business Intelligence/HR Analytics	18%
36%	Workforce Management	30%
35%	Payroll	28%
20%	Help Desk/Portals	10%
19%	Emerging Technologies	8%
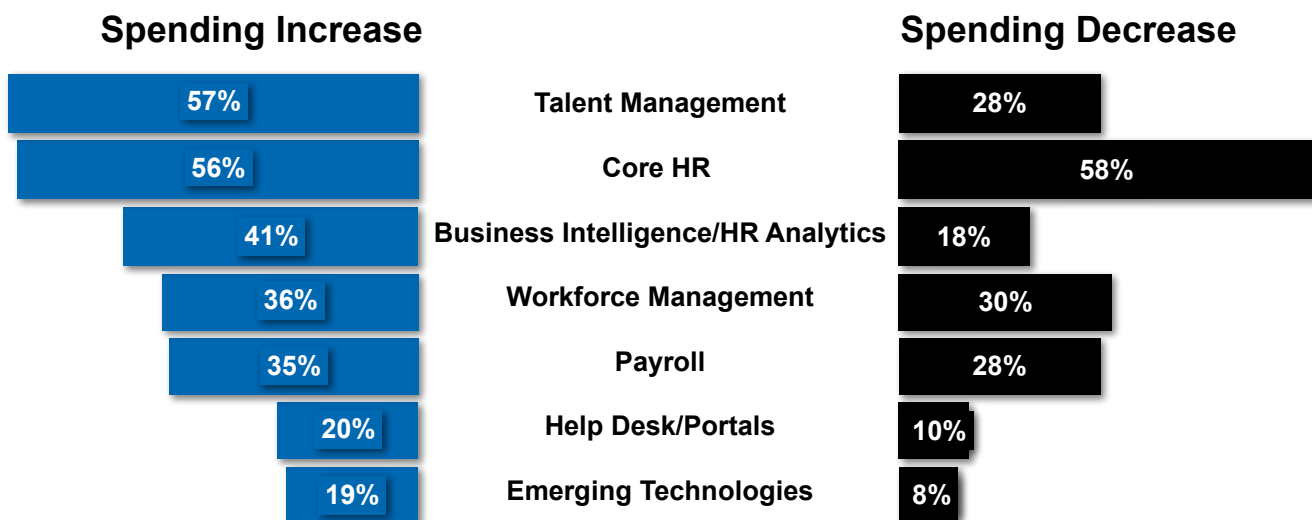
HR Technology Resourcing Strategies

Spending isn't the only indicator of an organization's goals; therefore, we asked organizations for their planned changes to headcount for specific HR/IT roles and to the number of HR roles across their HR functions over the next 12 months. HR roles range from Administrative to Management, and include those supporting or working with Payroll, Workforce Management (WFM), Learning and Development, Recruiting, and Talent Management (TM) applications.

Figure 17: HR/IT Resourcing
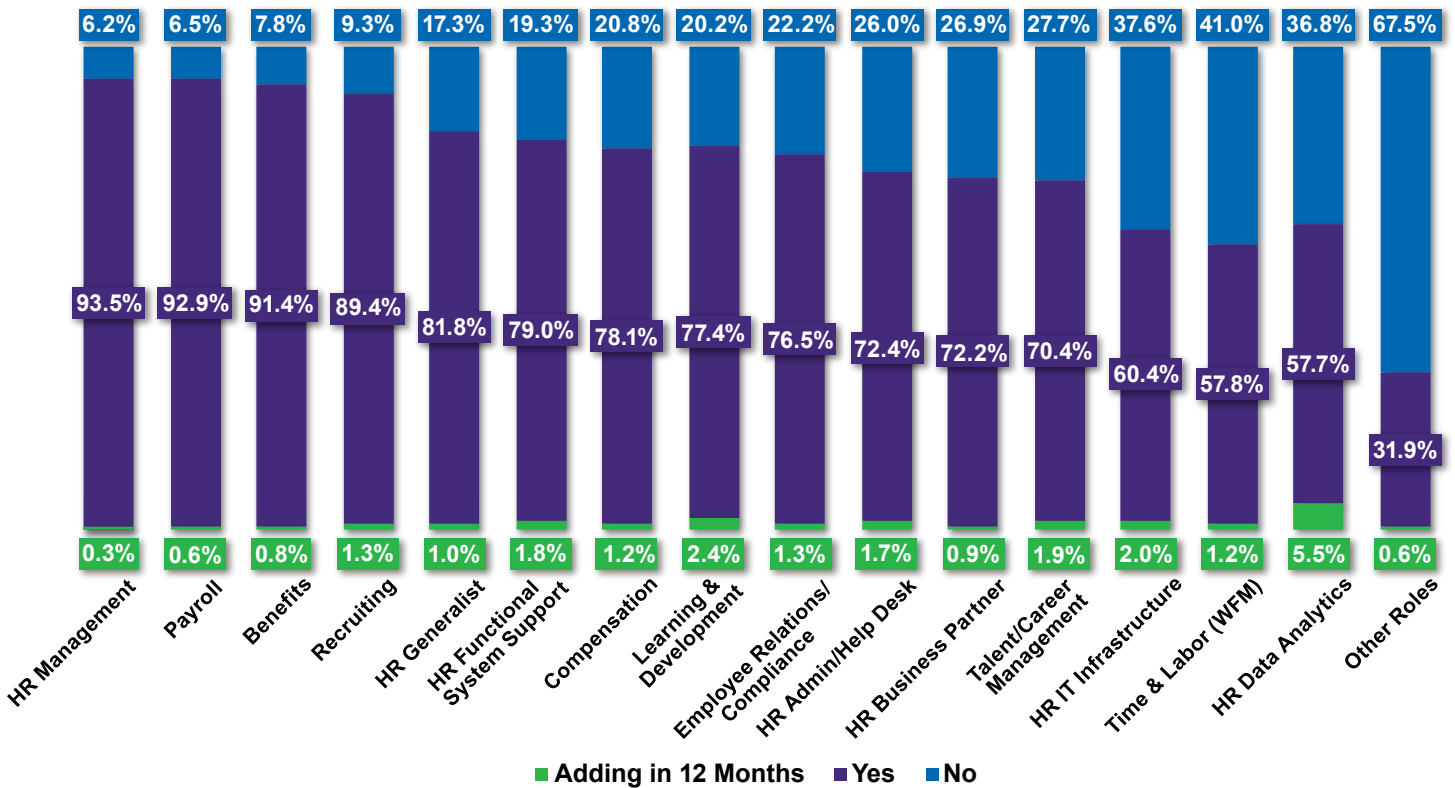
For 2018, we asked respondents from organizations with more than three HR employees whether they were familiar with the breakout of their HR roles and resourcing; for the 85% that were familiar, we asked follow-up questions regarding whether they had employees in specific HR/IT roles currently or if they planned to add them over the next 12 months. Large organizations had the highest number of overall roles in their HR/IT functions, while Small organizations were less likely to have roles that went beyond HR management, Payroll, Benefits, and Recruiting. Over 80% of organizations with more than three employees reported at least one full-time employee in these critical areas. New roles most likely to be added over the next 12 months for all organizations were HR Analytics (5.5%) and Learning and Development (2.4%).

Planned changes in headcount vary greatly by organization size: 25% of all Large organizations plan to add more HR Data Analytics roles, compared to 17% of Medium and only 7% of Small organizations. Medium organizations reported the highest planned increases in HR/IT resources and were most likely to increase roles in Talent Management areas, including Recruiting, Learning, Talent/Career Management, and Compensation. Small organizations were the least likely to add headcount to existing specific HR roles.

There were fewer plans to decrease roles across all organization sizes this year, with less than 3% of Small organizations decreasing any role, and for Large organizations only 13% were planning to reduce HR Generalist, Payroll, and HR IT Infrastructure roles.

Figure 18: Plans to Increase HR Roles by Size
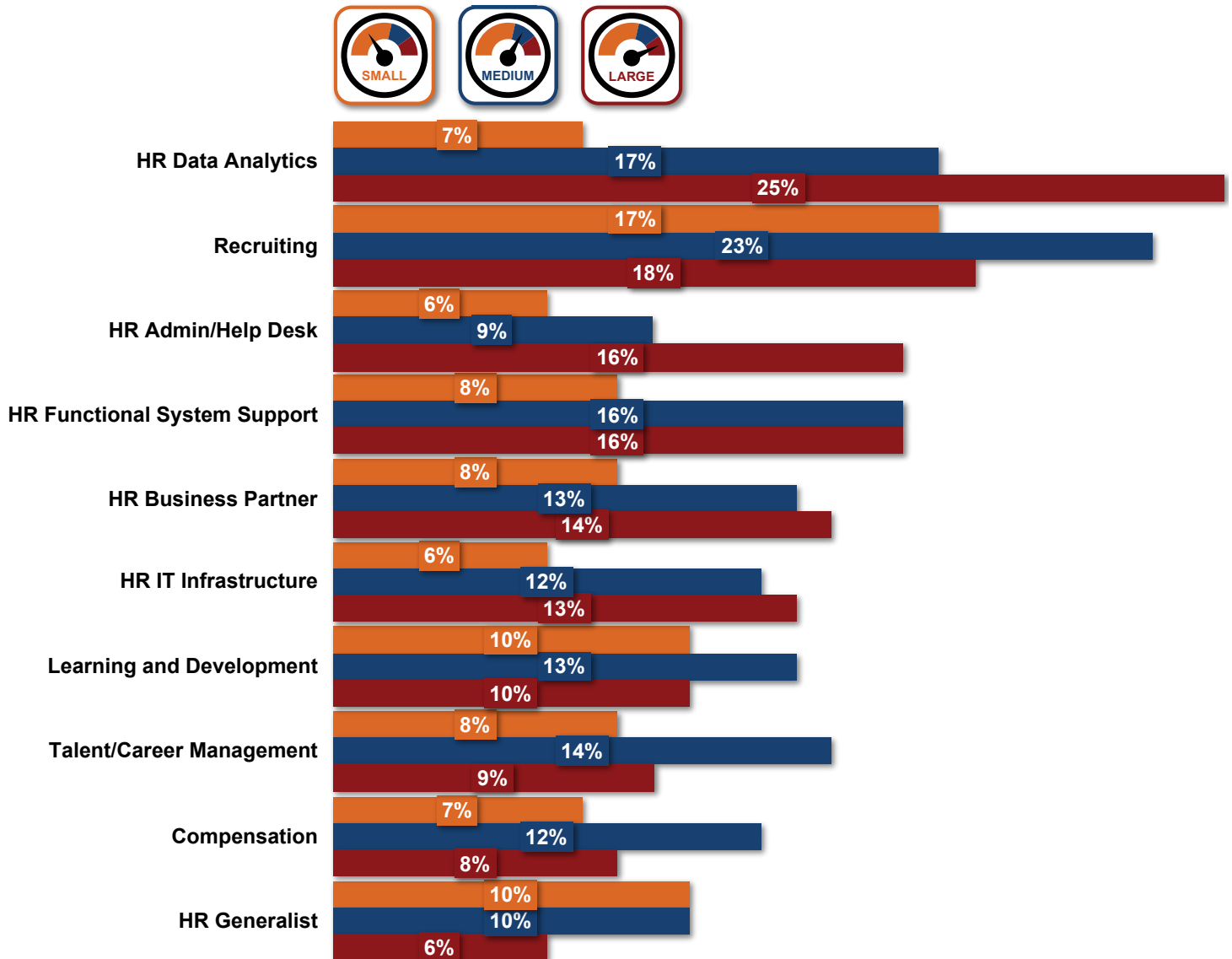
Changing the Conversation on Service Delivery

In an effort to increase HR efficiencies and improve User Experience (UX), many organizations are investing heavily in Shared Services centers. An organization's approach to Service Delivery applications directly connects to the approach it takes towards delivering HR services to its workforce, as well as budgeting and resourcing plans. We've identified three types of HR Shared Services:

- **Centralized:** organization wide, with all decisions, resourcing, and processes standardized at a single central resource.
- **Distributed:** managed at a regional/area level, with regional/area Shared Services centers and decision making.
- **Multiple:** managed at a central location, but there are variations in decision making, resourcing, and processes at the regional and operational level; limited standardization.

Organizations vary their approach to Shared Services according to multiple factors, which may include size, global makeup, and business model. Global organizations are almost twice as likely to have Distributed or Multiple Shared Services as non-Global organizations, and Large organizations are more likely to have Multiple Shared Services. Organizations with Centralized Shared Services are three times more likely to be viewed as Strategic HR Business Partners than those choosing a non-centralized option.

Figure 19: Shared Services Models by Size

3X as likely to be viewed by all levels of management as Contributing Strategic Value versus organizations with a Distributed or Multiple model.

SMALL   MEDIUM   LARGE

Centralized, Organization Wide: 34%, 41%, 36%

Distributed, Regional: 7%, 12%, 19%

Multiple, Central Mgmt w/Variations: 13%, 21%, 28%

No Shared Services: 46%, 26%, 18%
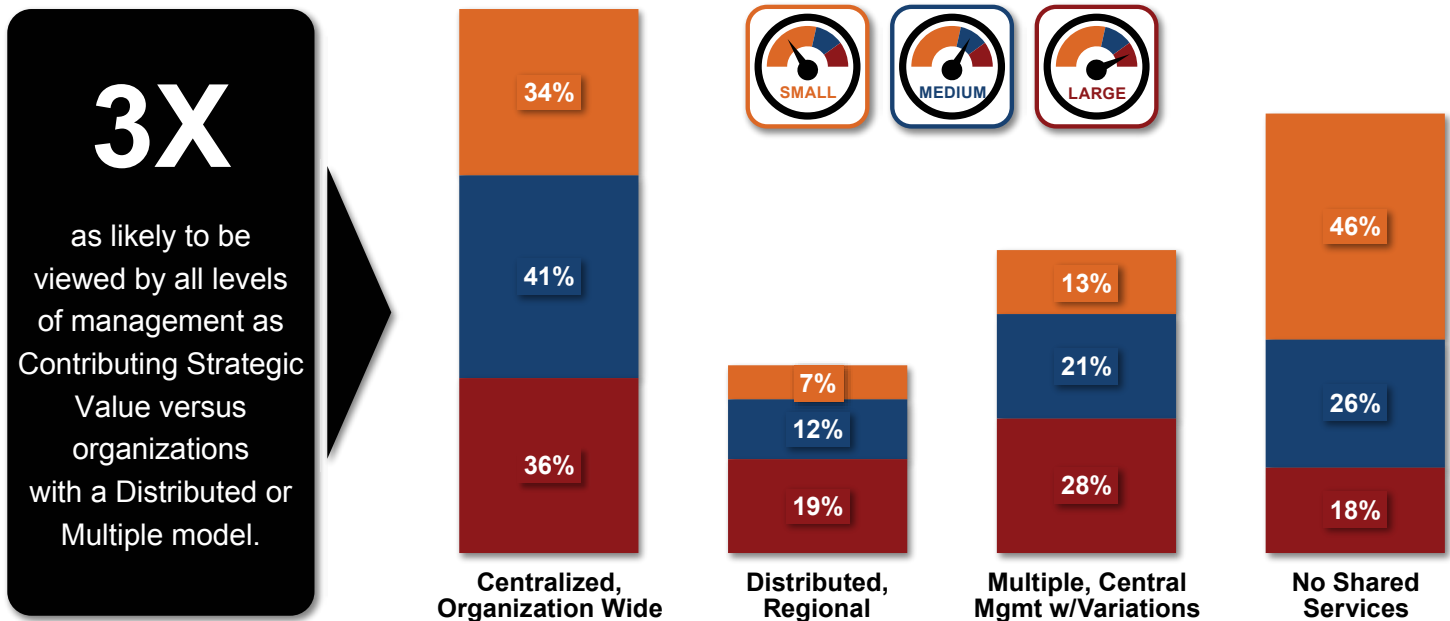
These concerns may explain why Top Performing, Data Driven, and Talent Driven organizations are less likely to have Enterprise Shared Services than Socially Responsible organizations and those implementing greater amounts of Emerging Technology. Half of all compliance-based HR functions with Shared Services are part of Enterprise Wide Shared Services. Organizations can limit their Shared Services to solely focus on HR or expand into areas such as Finance, Marketing, or IT. Expansion should be done strategically, with organizations clearly defining the value of each function.

Figure 20: Enterprise Shared Services

45%   55%

■ HR Only   ■ Enterprise Wide
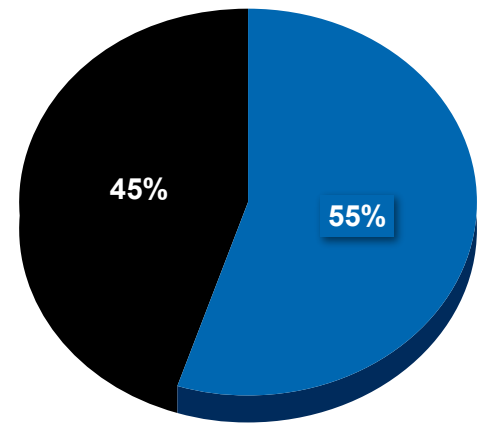
Figure 21: Shared Services Resourcing

8% 2%
10%
80%

■ Employees Only
■ Combination of Outsourced & Employees
■ Outsource to Third Party
■ Offshore Employees
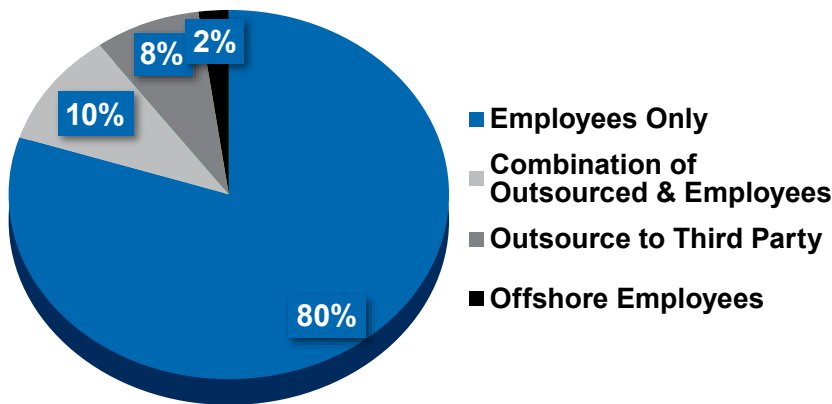
Resourcing can be a quandary for organizations as they enter the Shared Services space—many organizations look to the possibility of outsourcing these services, but our data shows that for an overwhelming number of organizations (80%), HR Shared Services Centers are currently staffed by their own internal HR employees rather than outsourced to a Third Party.

Organizations headquartered in Europe, Middle East, and Africa (EMEA) are slightly more likely to both outsource their entire Shared Services organization and offshore that workforce when compared to those headquartered in both North America (NA) and Asia Pacific (APAC). Small organizations were also slightly more likely to outsource their entire Shared Services center, but less likely to offshore that outsourcing. Shared Services are more than just centralizing processes and technology: they are also a major factor in improving an employee's HR experience. An efficient and effective service delivery model includes multiple employee interactions, often across multiple communication channels. Organizations with a higher number of average employee communication tools tend to be larger organizations or those with workforces that have, on average, younger employees.

Figure 22: Shared Services, Average Number of Employee Communication Tools

2.2 2.4 2.7
SMALL MEDIUM LARGE

2.0 2.3 2.5

2.3 2.3 2.6
NA APAC EMEA

Organizations were asked about the various communication methods deployed within their Shared Services, and over 90% are using email to interact with employees, while 47% are leveraging Call Center environments.

Figure 23: Shared Services, Approach to Employee Communications

Method	Percentage
Email	91%
Call Center	47%
Online Forms	39%
Live Chat	25%
Text Message	15%
Social Network	6%
Chat Bots	4%
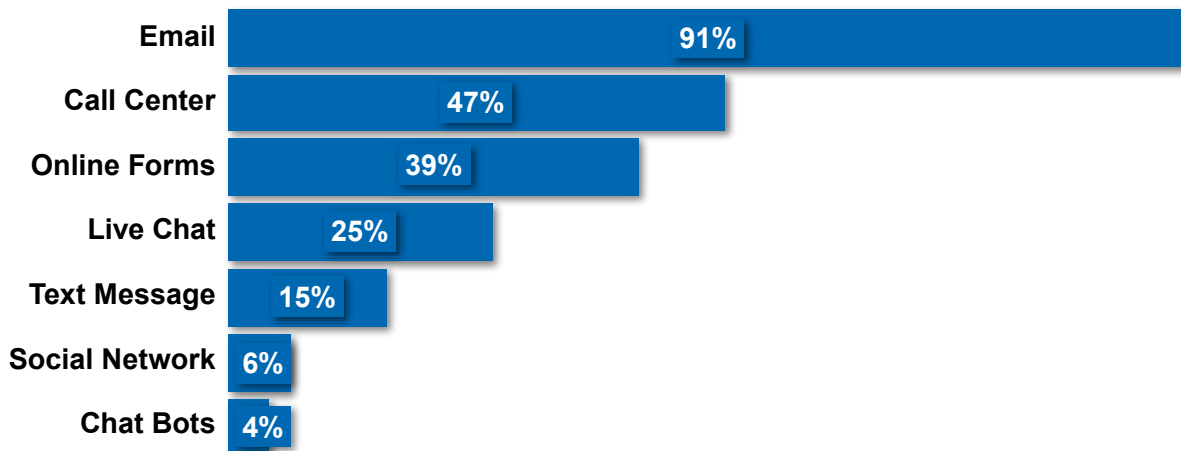
A few standout differences in approaches to employee communication tools include the following:

- **Call Centers:** at 73%, Large Organizations are most likely to use this resource, compared to just 29% of Small organizations. European organizations are slightly more likely to use Call Centers than their counterparts in North America or Asia Pacific.
- **Text Messages:** Small organizations are twice as likely as Large organizations to use Text Messaging, with 21% of organizations texting; 29% of Asia Pacific organizations contact their employees via texts.
- **Social Networks:** least likely to be used by Large organizations and those in North America as a communication tool, with just 3% using Social Networks today. We see significant regional differences for Social Networks; over 15% of organizations in EMEA and Asia Pacific use them as an HR communication tool.
- **Chat Bots:** may seem to be all the rage, but few organizations have implemented Chat Bots as HR communication tools today. With 11% of European organizations reporting Chat Bot use today, this region reports the highest Chat Bot adoption.

The Value of Change Management

Change Management, an increasingly important topic, is an easy area to deprioritize as organizations make plans for HR system acquisitions and deployment. Since it can prove difficult to justify the value proposition for the additional resources required to deliver an effective Change Management effort when allocating budgets and time, our research—which shows that Change Management practices play a major role in the perception and outcome of HR technology initiatives—can be used to justify an organization's investment in this area.

All Change Management efforts are not equal, and assessing impact requires a clear definition of the various levels of HR Technology Change Management. The Survey refers to the **Four Levels of HR Technology Change Management:**

- **Culture of Change Management –** every technology change in the organization on a consistent basis.
- **Key Projects –** only those that meet certain criteria such as size, budget, or breadth of stakeholders.
- **Sporadically –** done on an ad-hoc basis, no criteria.
- **Never –** not in the budget or resource plans.

No organization escapes the constant pace of change ubiquitous to our everyday lives. This year's Survey data continues to show that organizations investing in the highest level of Change Management to create a continuous Culture of Change Management realize multiple benefits—yet only 27% of respondents currently make these investments. HR organizations supporting a Culture of Change Management are ten times more likely to be viewed by all levels of management as Contributing Strategic Value to their organization versus organizations with no Change Management. The connection between investing in a Culture of Change Management and being viewed as a more Strategic HR function has increased every year for the last three years.

Figure 24: Change Management Practices by Size
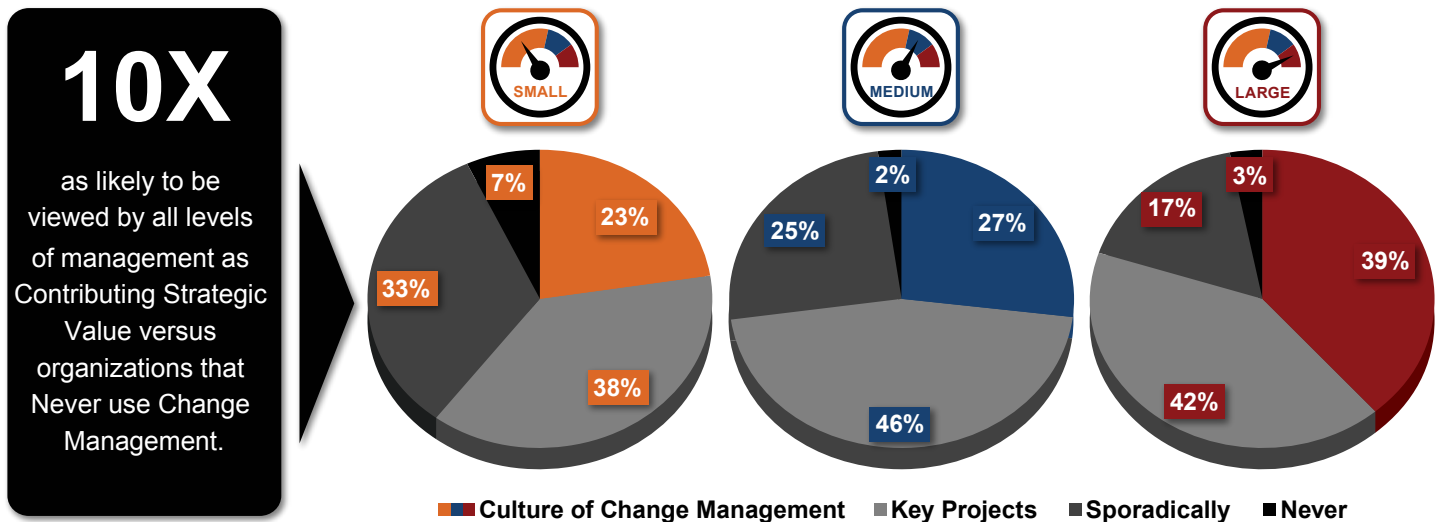
Large and Medium organizations are the most likely to conduct any Change Management, and more than a third of Large organizations are likely to have a consistent Culture of Change Management. This picture changes dramatically for Small organizations, where only 23% have a consistent Culture of Change Management and 7% Never practice Change Management. In contrast, Outcome Driven organizations are almost 60% more likely to have a Culture of Change Management and are less likely to report Sporadically or Never practicing Change Management, illustrating its importance as a tool for focusing their cultural expectations.

Figure 25: A Culture of Change Management in Outcome Driven Organizations

5%	23%	28%	43%
4%	16%	39%	41%
5%	17%	34%	43%
26%	26%	49%	
5%	28%	40%	27%

■ **Never**   ■ **Sporadically**   ■ **Key Projects**   ▨ **Consistent Culture**
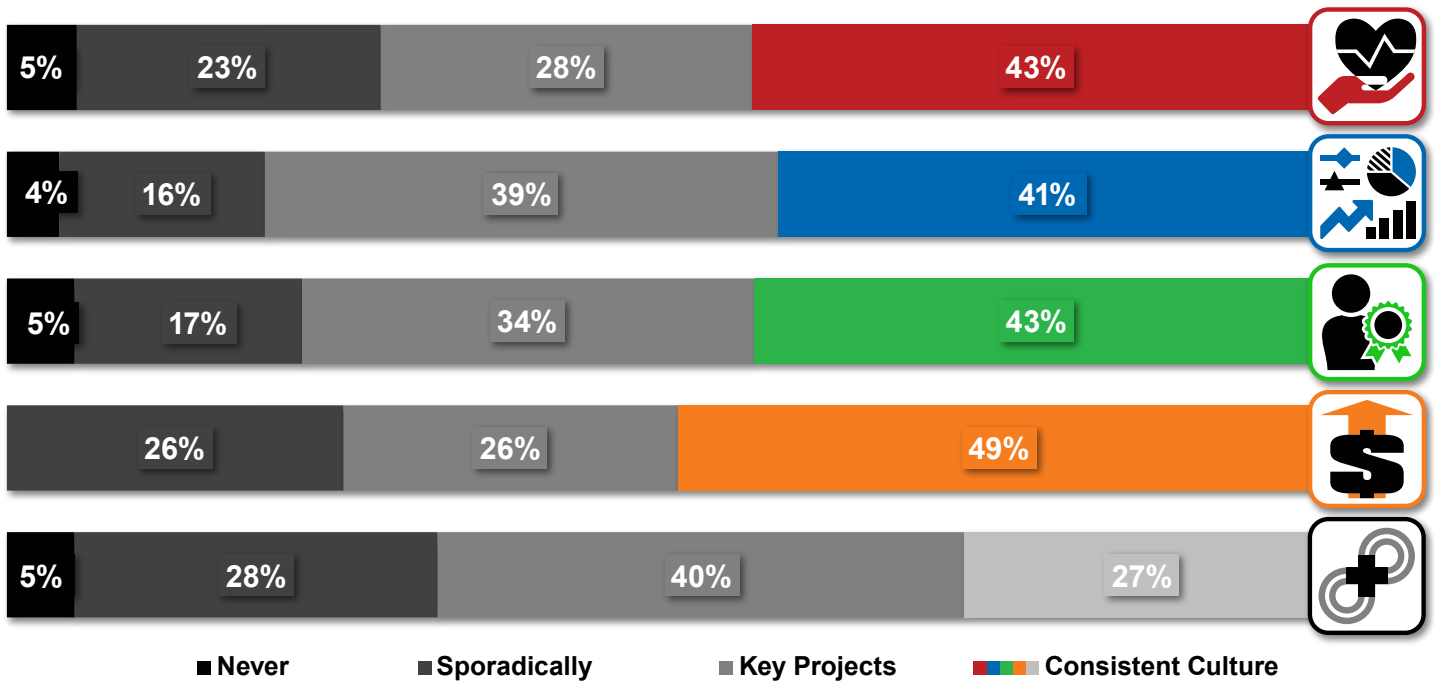
Change Management efforts also impact the aggregate Talent, HR, and Business Outcomes assessed in our research. Organizations practicing consistent Change Management realized an average of 19% higher overall outcomes measures when compared to organizations with no Change Management practices. Data also shows a slight improvement in all outcomes for those organizations that practice Change Management for Key Projects. Organizations practicing Sporadically were not only less likely to achieve higher levels of outcomes, but in the case of Talent Management and HR, they were more likely to see lower outcomes than organizations that Never practiced Change Management—when it comes to Change Management, doing something isn't always better than doing nothing.

Figure 26: Talent, HR, and Business Outcomes Align with More Change Management

Talent Outcomes   HR Outcomes   Business Outcomes

Improved — Neutral — Declined

Average Talent   Average HR   Average Business

19% Higher

◆ **Continuous Change**   ■ **Key Projects**   ▲ **Sporadically**   ● **Never**
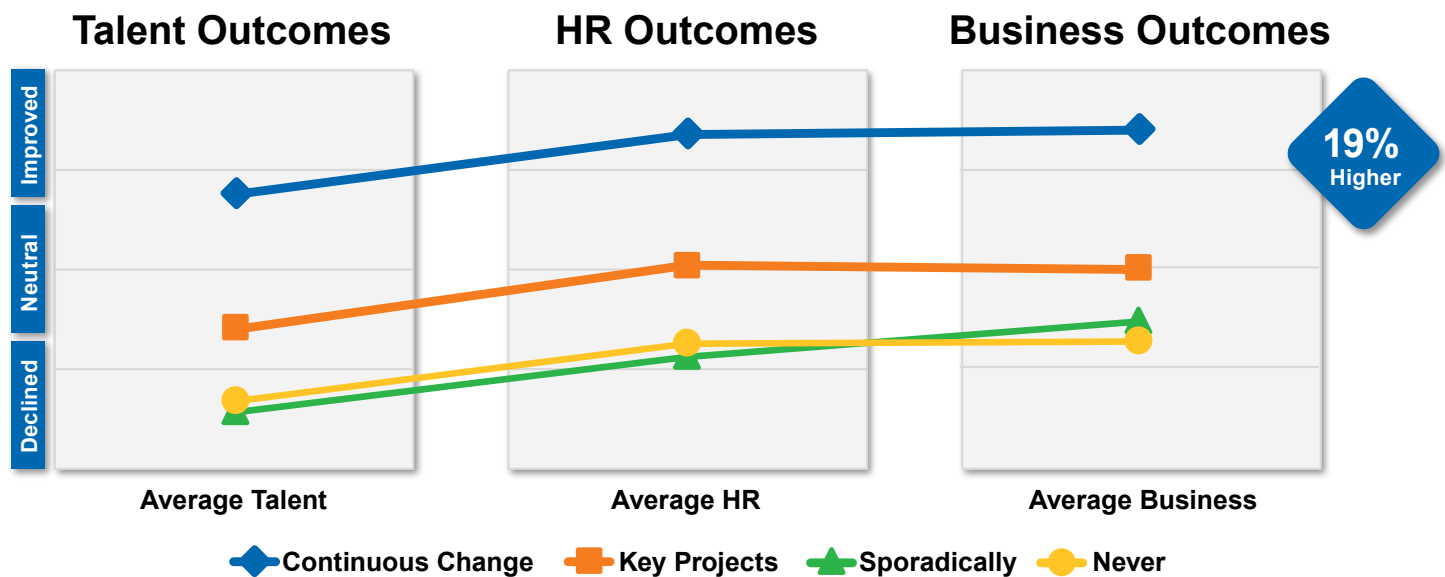
Transforming an HR environment necessitates a shift in thinking from organizations practicing Change Management for Key Projects to a consistent Culture of Change Management. This shift doesn't merely entail implementing new Cloud technologies requiring constant updates, but also the realization that the pace of change simply cannot be sustained with Key Project-based Change Management practices. Project Management practices are based on the idea that all projects have a beginning, middle, and end, and that goals determined at the beginning of the process can be achieved at the completion of the project. In reality, goals shift frequently and Key Performance Indicators (KPIs) adjust expected overall outcomes. It can be easy to view changing end-user requirements as scope creep to be avoided; however, if your organization practices a consistent Culture of Change Management, then end-user requirements will be reviewed regularly with agile practices meant to identify changing requirements as they appear so that adjustments can be made according to business needs.

Social Responsibility Shines a Light on Culture

When developing an Enterprise HR Systems Strategy, an organization needs to consider organizational goals, technology ecosystems, available financing, resource allocation, service expectations, capacity for change, and enterprise Culture. Culture in an organization consists of more than simply words on a poster or marketing language approved by executive leaders; real organizational Culture must be determined by behaviors and actions. Successful HR Technology leaders are mindful of organizational Culture, understanding that their efforts will shine a light on cultural realities overlooked in the absence of data and behavior-tracking technology. HR Technologists play a significant role in governing how workforce technology is used, the behaviors technology enables or prevents, and the inherent business risks for individual employees as well as the organization.

Figure 27: Social Responsibility in a Technology World

	Excellent/Good	Average	Poor/Terrible
High Regulation			
Healthcare	73%	21%	5%
Diversity & Inclusion	74%	20%	6%
Paid Family Leave	66%	24%	10%
Comp/Pay Equity	63%	31%	7%
Some Regulation			
Employee Assistance	72%	23%	6%
Flex Schedules	63%	26%	11%
Wellness	62%	25%	13%
Retirement Planning	58%	28%	14%
Not Regulated			
Community/Volunteer	62%	22%	16%
Tuition Assistance	56%	26%	18%
Employee Engagement	53%	32%	15%
Outplacement	41%	35%	24%

Our research into Social Responsibility focuses on understanding the connection between Culture, organizational behaviors, and HR Technology. We determine an organization's overall Social Responsibility average by asking organizations to rate themselves from Excellent to Terrible on how well their organization addresses a variety of Social Responsibility initiatives. The highest-level initiatives differ by size and region.

Small organizations responded that their strengths were in Healthcare and Benefits, with 38% rating themselves as Excellent.

Medium organizations responded that they excel in Employee Assistance programs, with 33% of organizations rating themselves as Excellent.

Large organizations responded that they excel at Diversity and Inclusion, with 41% of organizations rating themselves as Excellent.

Overall, we see that highly regulated initiatives are more likely to be handled *well* by the organizations surveyed, while Low Regulation and No Regulation initiatives such as Outplacement and Tuition Assistance are the most likely to be handled *poorly* by organizations.

One High Regulation initiative that deviated from our categorization was the management of an organization's Contingent Workforce; only 37% of organizations reported "Excellent" or "Good" management of these workers. On average, 27% of our Survey respondents' workforces were identified as Contingent, and many organizations are unsure about the role of HR in dealing with this group. This disconnect can lead to the HR function discounting the overall impact of contingent workers. Only 40% percent of organizations with contingent workers track 100% of these individuals in their HRMS today, and many HRMSs are not equipped to address the complex needs of managing a Contingent Workforce. In some cases, operations or procurement handles hiring, Onboarding, security, communications, and contract management for what essentially becomes a shadow workforce. We see that organizations who are reporting better management overall of Social Responsibility initiatives also do a better job with managing Contingent Workforces. These Socially Responsible organizations also report managing higher percentages of their Contingent Workforce through their In-House Enterprise Systems.

Figure 28: Contingent Workforce Management

Contingent Workforce	37%	42%	21%

■ Excellent/Good   ■ Average   ■ Poor/Terrible
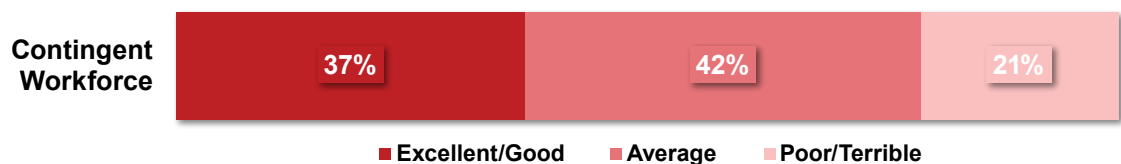
What % of your Contingent Workforce is managed through these systems?	Socially Responsible	Non-Socially Responsible
Core HRMS	77%	66%
Procurement/Vendor Management System	70%	53%
Stand-Alone Contingent System	62%	47%
Outsourced Solution	46%	48%

27%
the average % of an organization's workforce that is contingent today

The Top 10% of overall Social Responsibility scores are designated as our Socially Responsible organizations; on average, these organizations have higher Return on Equity, have improved overall Business Outcomes, and are more likely to report having HR functions viewed by management as strategic business partners than Non-Socially Responsible organizations. However, we found no correlation between generational workforce makeup, standard HR Technology environments, delivery models, per-employee HR Technology Spending, or HR Technology vendors for Socially Responsible organizations. The following chart identifies the Top 10 statistically significant Socially Responsible Organizational Characteristics and compares the Socially Responsible organizations to organizations not in that Socially Responsible group.

Figure 29: Socially Responsible Organizational Characteristics

Top 10 Socially Responsible Organizational Characteristics	Socially Responsible	Non-Socially Responsible
1 Excellent Contingent Workforce Management	53%	3%
2 Number of Mobile Areas	6.65 Different Areas	4.33 Different Areas
3 Number of Overall Applications (Admin, TM, WFM, WI)	19 Different Applications	15.3 Different Applications
4 Tracking More Metrics	4.79 Metrics	3.67 Metrics
5 Manager Self Service Rollout	62%	45%
6 Effective Career Planning Processes	33%	14%
7 Effective Succession Planning Processes	38%	13%
8 Transformational Business Intelligence Processes	16%	3%
9 Transformational Learning and Development Processes	15%	3%
10 Career Planning Solution In Use	52%	25%

Social Responsibility initiatives are part of a larger business conversation. How do you want the consumers of your business to view your company? Can the Social Responsibility initiatives undertaken by your organization impact how it is viewed by the marketplace, your industry, or current and prospective employees? How can Social Responsibility and Culture impact your ability acquire talent and recruit critical skills required to achieve Business Outcomes? We analyzed Social Responsibility factors to determine which had the highest correlation with our HR, Business, and Talent Outcomes and found that overall our Top 10% of outcomes were 15% higher average for Socially Responsible organizations. Furthermore, these organizations excel in the Talent Outcome areas where they report 23% higher outcomes for Retaining Top Talent, 20% higher outcomes for Developing a Highly Qualified Workforce, and 16% higher outcomes in the Ability to Attract Top Talent—all three areas deemed crucial for organizations in today's tight Talent Management market, each providing real benefits for those organizations that embrace Socially Responsible behaviors.

Enterprise Workforce Planning Realities

Enterprise Workforce Planning (EWP) involves the most complex analysis efforts undertaken by HR functions and are the culmination of a well-executed HR Analytics Strategy. Currently, only 26% of Survey respondents are conducting EWP, a number that has risen very slowly since we started tracking EWP in 2016 when this number was 22%. Organizations that conduct EWP also report having an HR Systems Strategy and are 60% more likely to have a Strategy versus those organizations not conducting EWP.

The benefits of EWP are most often viewed in operational outcomes, and our data shows the greatest impact is seen in Talent Outcomes. Organizations that conduct EWP, on average, realize gains of 12% higher Talent Outcomes and 10% higher HR and Business Outcomes. Successful EWP goes beyond simple headcount analyses and considers the data necessary to make sound business decisions. Those organizations that conduct EWP are 64% more likely to leverage HR Technology environments which support Business Decisions and Business Strategy.

Figure 30: HR Technology Usage in Organizations with Enterprise Workforce Planning

Influences Business Decisions	Influences Business Strategies
69% / 43%	51% / 30%

■ **Enterprise Workforce Planning**　■ **No Enterprise Workforce Planning**
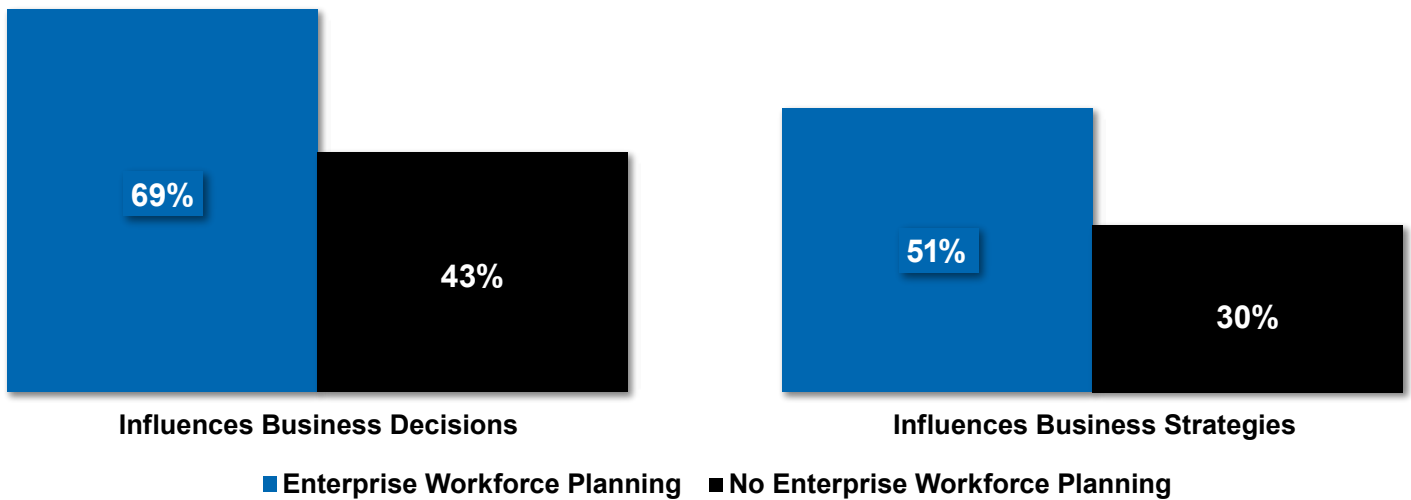
Enterprise Workforce Planning can be time consuming and fraught with challenges, especially when trying to identify accurate and helpful data for forecasting and scenario-analysis efforts. Often the most challenging aspect involves using external and regional data, usually from government entities or shared regional data sets, to derive meaningful analyses. Key data leveraged by organizations that conduct EWP is listed in the figure below.

Figure 31: Data Used in Enterprise Workforce Planning Efforts

Recruiting Headcount	57%
Business Unit Data	56%
Skill Analysis	49%
Business Strategy Data	43%
External Data	36%
Regional Data	34%
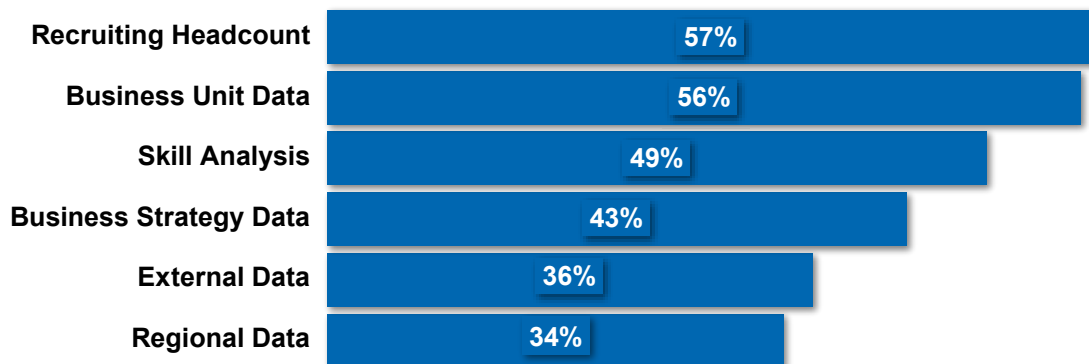
Survey respondents shared common themes about EWP best practices:

- A necessary partnership between HR and Finance
- Organizations often only do workforce planning for key roles
- Annual and three-year planning efforts are the most common timelines
- Multiple lines of business often require a customizable Workforce planning process
- Business risk analyses are included in many organizational approaches
- Many organizations, including Large ones, still do this work manually

Very few organizations are conducting EWP, so which organization sizes and types are actually investing time and resources in this area? Data shows that Large organizations are twice as likely to conduct EWP than Small organizations (40% Large vs. 20% Small). Our Outcome Driven organizations—particularly Talent Driven organizations at 53%—are more likely to conduct EWP than the aggregate.

Figure 32: Enterprise Workforce Planning for Outcome Driven Organizations
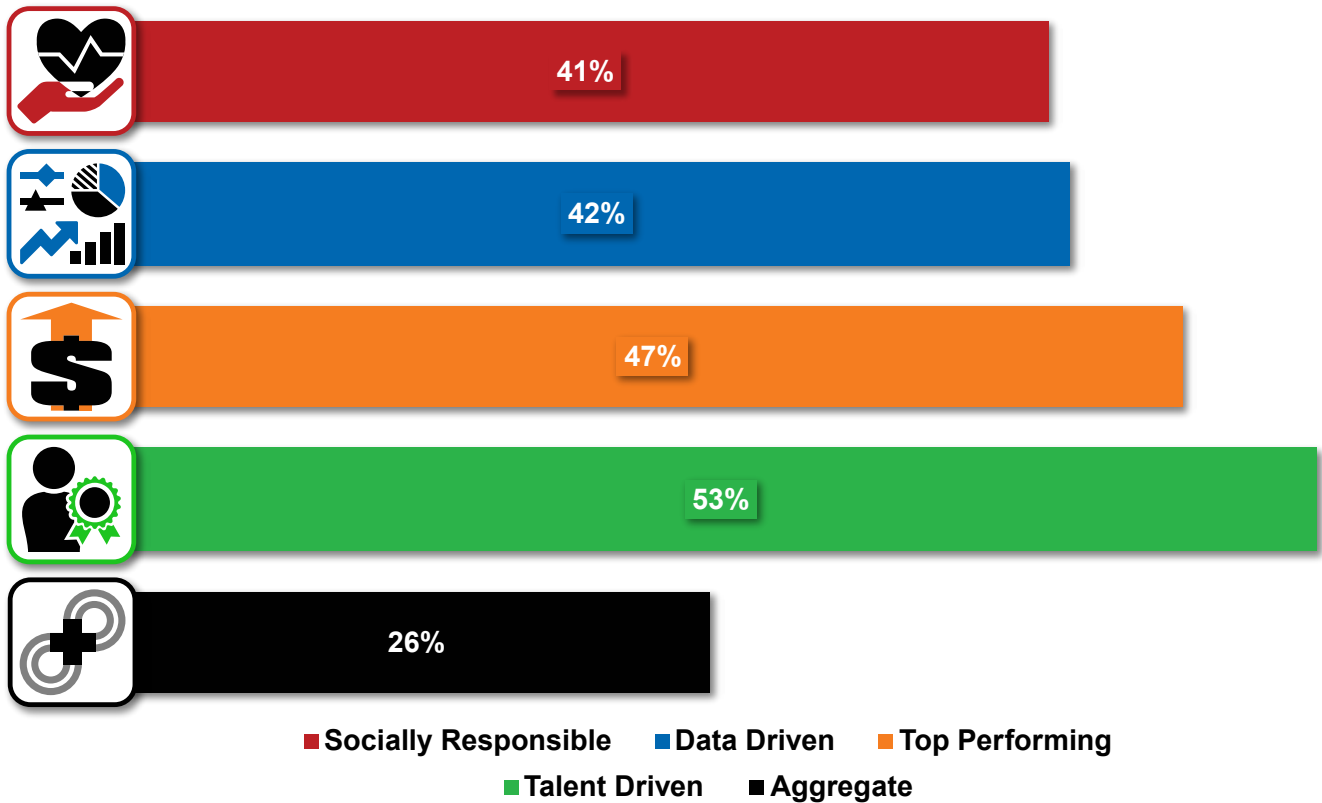
Our statistical analysis identified characteristics of organizations conducting EWP; strategy, process, and specific analytical tools are important elements in achieving EWP outcomes.

Figure 33: Top 11 Enterprise Workforce Planning Characteristics

Top 11 Enterprise Workforce Planning Characteristics		Enterprise Workforce Planning	No Enterprise Workforce Planning
1	Workforce Planning Process (Effective/Transformational)	36%	12%
2	Enterprise Systems Integration Strategy	40%	13%
3	Sentiment Analysis Tools	16% Use 27% Evaluating	4% Use 14% Evaluating
4	Statistical Tools	33% Use 10% Evaluating	17% Use 4% Evaluating
5	Predictive Analytics Tools	26% Use 43% Evaluating	10% Use 31% Evaluating
6	Machine Learning Tools	14% Use 33% Evaluating	5% Use 14% Evaluating
7	Benchmarking Databases	38% Use 29% Evaluating	19% Use 23% Evaluating
8	Succession Planning Process	36%	13%
9	Enterprise HR Systems Strategy (Effective/Transformational)	60%	37%
10	Data Warehouse	40% Use 13% Evaluating	26% Use 3% Evaluating
11	Data Lake	13% Use 12% Evaluating	4% Use 4% Evaluating

HR Technology Deployment Strategies

Cloud-based HR applications are now a standard expectation for new buyers—for organizations looking to update or replace existing solutions, movement to a full Cloud environment is generally not an *if,* but rather a *when* discussion. Over the last five years, we've seen fewer responses every year from organizations with On Premise deployment models and 70% of responding organizations identify at least one deployed HR Cloud application. Although Cloud numbers have increased, is important to acknowledge that 40% of organizations do have one or more HR applications deployed On Premise.

We are also seeing a slight resurgence in enterprise application On Premise investments, particularly in the U.S., as organizations re-assess tax implications, ongoing costs of Cloud applications, and security concerns—although these concerns haven't resulted in a slowdown of HR application Cloud adoption. Overall, Cloud adoptions continue to increase; however, we do continue to see a slower-than-expected decrease in On Premise deployments. Organizations with existing On Premise HR applications must consider multiple factors when weighing these concerns against Cloud advantages when determining plans for technology changes:

Cloud	On Premise
Improved UX	Business-specific customizations
Consistent update schedule	Upgrade requirements
Growth and scale requirements	Existing hardware and tax implications
Security expenses and management	Security regulations or visibility
Regional data location regulations	Reduced or limited vendor maintenance
Potentially higher costs	Potentially lower costs
Better analytics and reporting	Impact of change

Vendor or solution changes aren't solely the purview of organizations moving applications from On Premise to the Cloud. We are beginning to see changes to both type and number of applications deployed by individual organizations within the Cloud, including second- and third-generation Cloud deployments, Cloud vendor replacements, and the consolidation of multiple vendors into suites. These HR Cloud environments include Payroll, Core HRMS, WFM, TM, Workforce Intelligence (WI), and Emerging Technology solutions. When looking at entire HR Systems' ecosystems and strategies, organizations should consider several factors including enterprise, regional, and group-specific applications.

The *Sierra-Cedar HR Systems Survey White Paper* first reported on Cloud/SaaS deployment methods in 2007; by 2011, over 50% of deployed TM applications were in the Cloud; in 2015, we first hit the 50% mark for purchased Core HRMS Cloud/SaaS solutions. In the **13 Years of HR Technology Cloud Adoption** figure, we illustrate the rapid rise in the adoption of Cloud-based HR Technology over the last 13 Years.

Figure 34: 13 Years of HR Technology Cloud Adoption

■ **Talent Management** ■ **Core HRMS** ■ **Workforce Management**
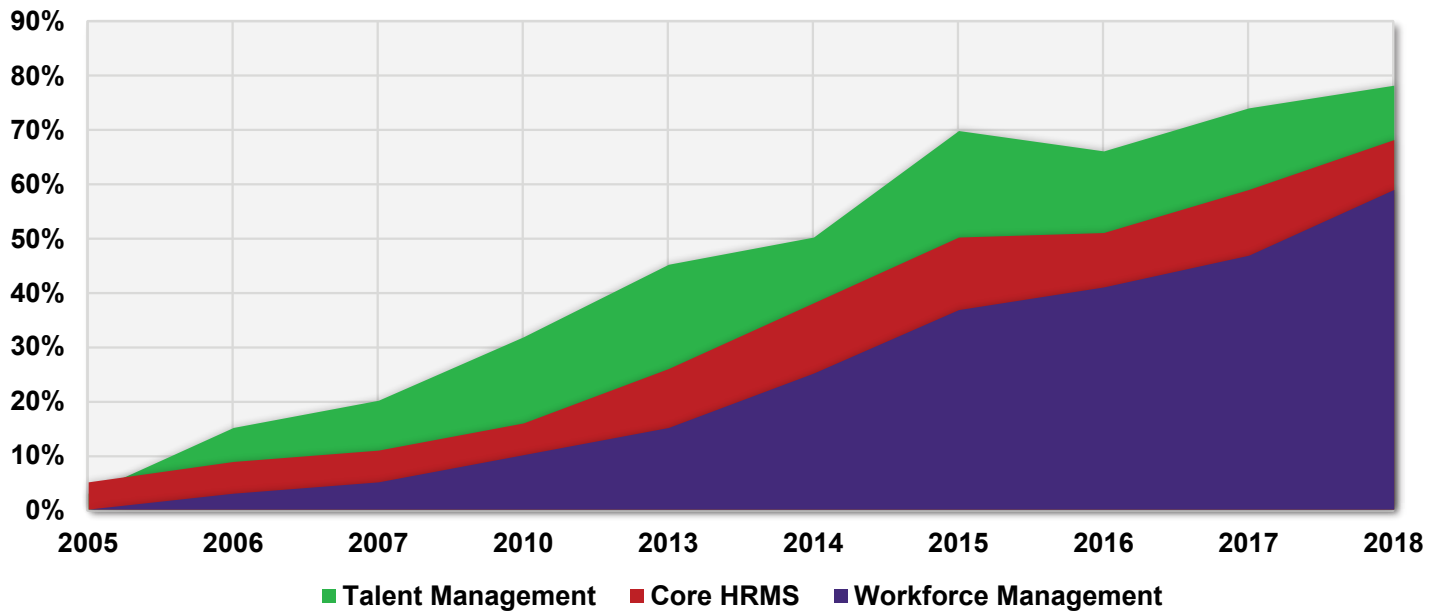
2018 promises to be another major milestone year for organizations as they share their plans for Cloud application adoption. Data shows that consumer and data-driven applications have become standard in the HR community. Presently, 37% of organizations maintain an On Premise Core HRMS solution, though this has decreased by 16% from last year. In aggregate, HR Cloud adoption has increased by 14% from last year, along with higher average User Experience (UX) scores for Cloud applications. Many organizations have multiple HR application environments deployed within a single organization, therefore overall deployment percentages never equal 100% between current On Premise and Cloud deployments; we call these Combination Environments.

Figure 35: 2018–2019 HCM Technology Deployment
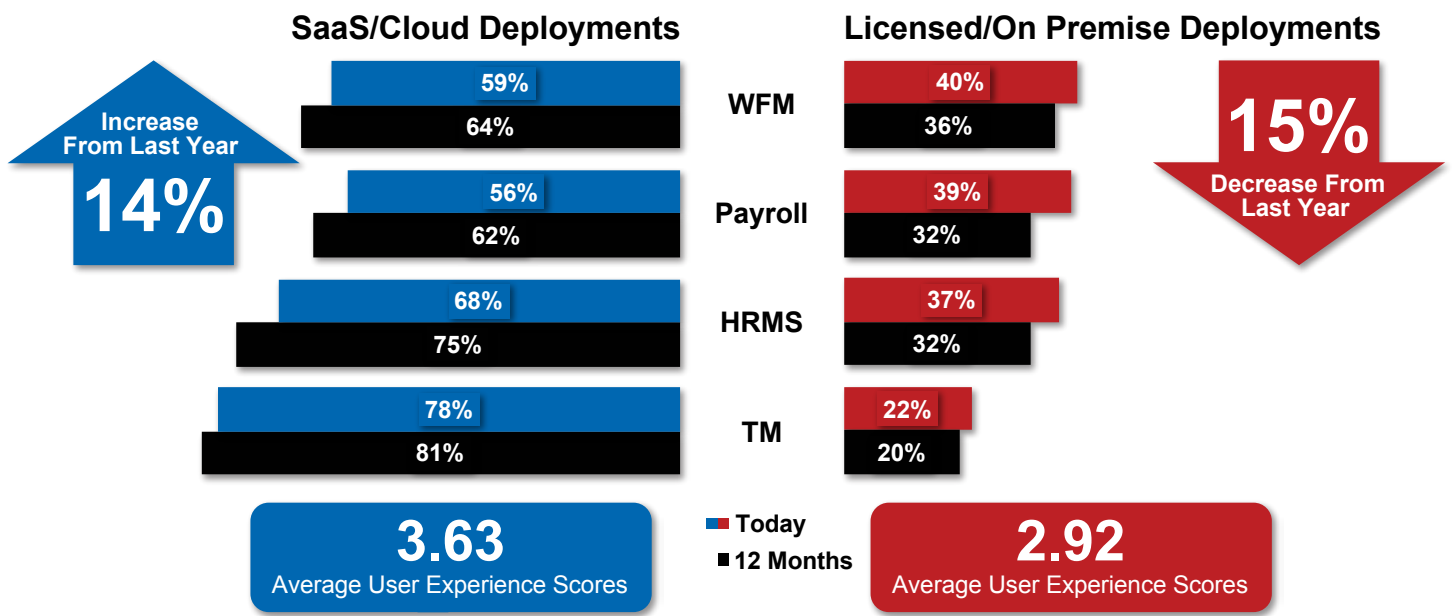
Note: Totals include combination and hosted environments

We expect a continuing decline in Licensed/On Premise solution deployments, and although Cloud deployments continue to increase, the pace of change is slowing. Those organizations remaining in Licensed/On Premise environments are often complex, risk averse, and cost conscious, and are making the shift to Cloud deployment more slowly than early adopters. Last year, 24% of our aggregate respondents planned to move to a Cloud/SaaS Core HRMS solution in the next 12 months; 2018 respondents report that only 16% actually did so, not nearly the jump predicted or actualized in previous years. The 7% planned increase in HRMS Cloud solutions reported in 2018 for next year is much smaller than the numbers organizations had planned for last year—and based on past data, we believe this plan will also prove to be optimistic.

Figure 36: Core HRMS Transition to Cloud/SaaS Solutions

Aggregate Respondents – Core HRMS Transition to Cloud/SaaS Solutions					
2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	Plan for 2019
48% ↑	32% ↑	2% ↑	24% ↑	15% ↑	7% ↑

Overall movement to the Cloud varies greatly by application area, geographic region, and organization size. In past years, Cloud deployments (for all application categories except for TM) were predominantly undertaken by organizations with fewer than 10,000 employees; however, we are beginning to see Cloud deployment increases for Large organizations. This group is twice as likely as Small and Medium organizations to report plans for increasing their Cloud adoption levels in the next 12 months, and they report a major reduction in Licensed/On Premise application deployments for Payroll, WFM, and TM applications.

Figure 37: 2018–2019 HCM Deployments by Size

	HRMS	Payroll	WFM	TM
SMALL	74% / 16% / 10%	64% / 14% / 14%	62% / 20% / 12%	79% / 20% / 8%
MEDIUM	64% / 31% / 11%	56% / 31% / 14%	61% / 32% / 9%	84% / 12% / 9%
LARGE	57% / 52% / 7%	32% / 54% / 12%	48% / 49% / 16%	75% / 9% / 11%

■SaaS ■Licensed/On Premise ■Hosted
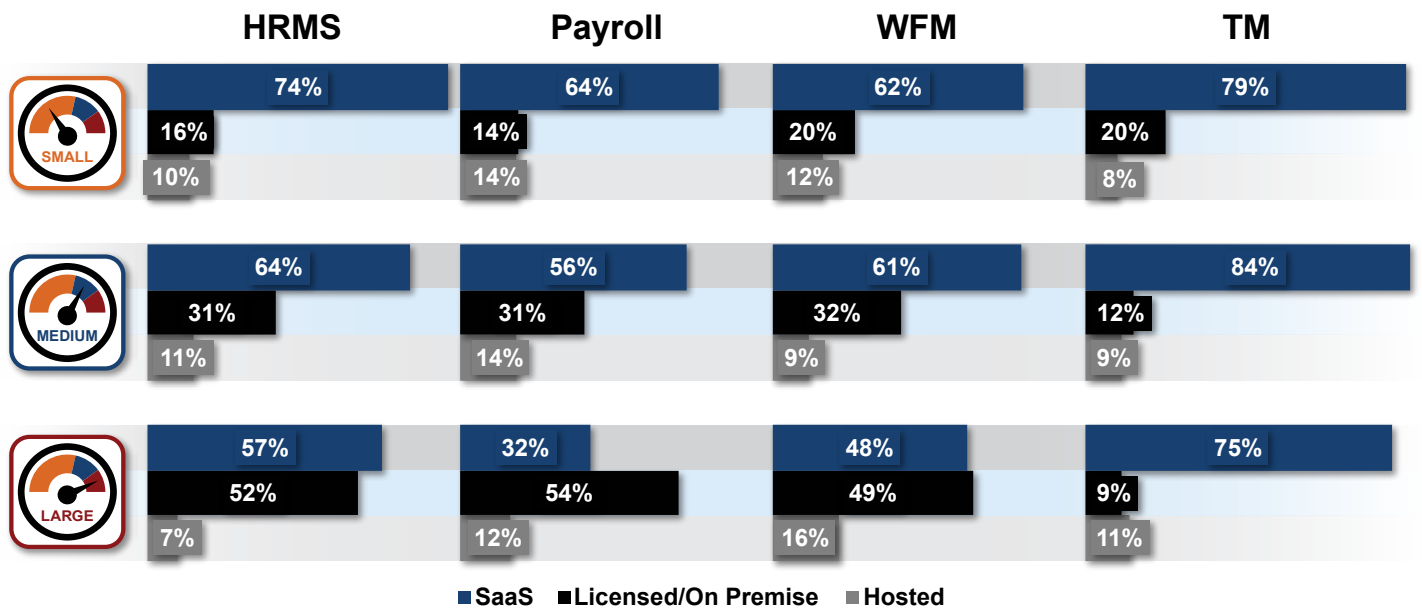
Hosting of Licensed/On Premise and Full Outsourced application types have increased slightly over the last few years; these services, once only the domain of Very Large organizations (over 50,000), are now expanding to Small and Medium organizations as they continue to remove the expense of infrastructure in their own facilities. Organizations with only a Licensed/On Premise HRMS are twice as likely to be evaluating the benefits of public Cloud hosting or IaaS over those organizations already hosting their software in the Cloud.

Transforming HR Systems Environments

The HR Technology industry transformation roller coaster is finally slowing down as organizations' plans for major change drop from 73% in 2016 to 42% in 2018—a 74% decrease over the last two years. Organizations will eventually require some level of HR technology transformation to stay current as environments become obsolete and vendors stop supporting certain solutions. Employees have high UX technology expectations and it is becoming increasingly difficult for top talent to overlook workforce technology that provides minimal value or a cumbersome experience.

Figure 38: Plans for Major Transformations in HR Technology Environments

73% 58% 42%

74%
fewer organizations planning HR Technology transformations in the last 2 years

■ 2016 ■ 2017 ■ 2018
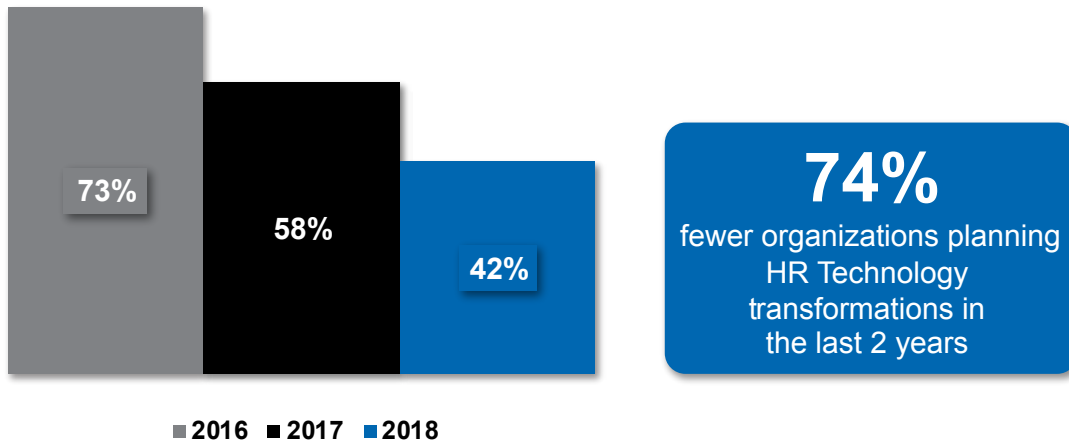
Organizations take different pathways in pursuit of HR environment transformation: Rip and Replace, Hybrid, Parallel/Patchwork, and Hosted/Outsourced. Vendors may provide services and support for clients via multiple integration options along with the tools needed to leverage a mixture of deployment models. We see a 72% increase from last year in Rip & Replace, with 38% of organizations taking this path. Use of both Hybrid and Hosted/Outsourced paths are down slightly, while the number of organizations using Parallel/Patchwork as a solution has dropped dramatically—from 27% to just 16%.

Figure 39: Multiple Pathways to an HR Tech Transformation, Current State

Rip & Replace
Move everything to the Cloud at once
38%

Increase From Last Year
72%

Current State

High Risk

Hybrid
Move ONLY TM or WFM apps to Cloud
21%

Parallel/Patchwork
Combination Licensed and Cloud Solutions
16%

27%
Decrease From Last Year

Hosted/Outsourced
Single Tenant or BPO
16%

Low Risk

Focused ← → Reactive
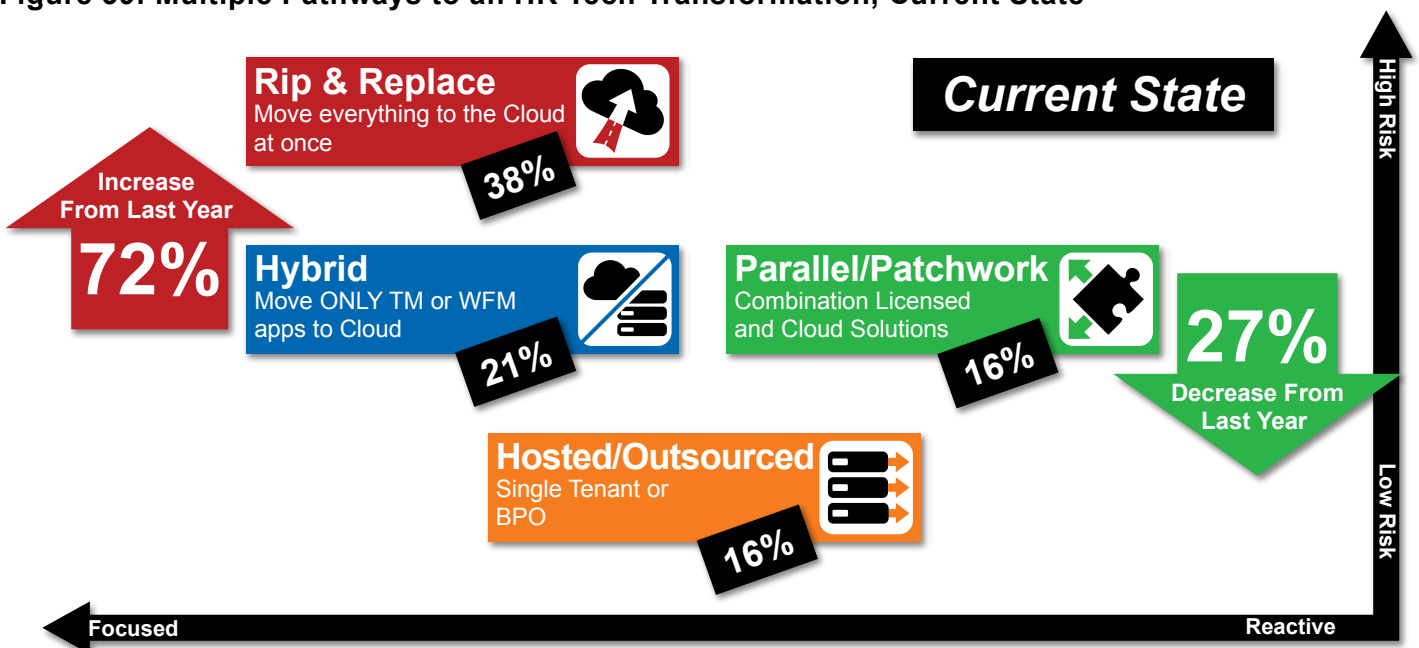
For the 42% of organizations planning an HR technology transformation in the next 12 months, Future Plans haven't changed dramatically: 67% plan to maintain a Hybrid, Patchwork, or Parallel environment strategy, and we see a 20% increase for those leveraging Hosted/Outsourced services. These broad generalizations concerning complex technical ecosystems shed some light on organizational decision making for technology transformations.

Figure 40: Multiple Pathways to an HR Tech Transformation, Future Plans
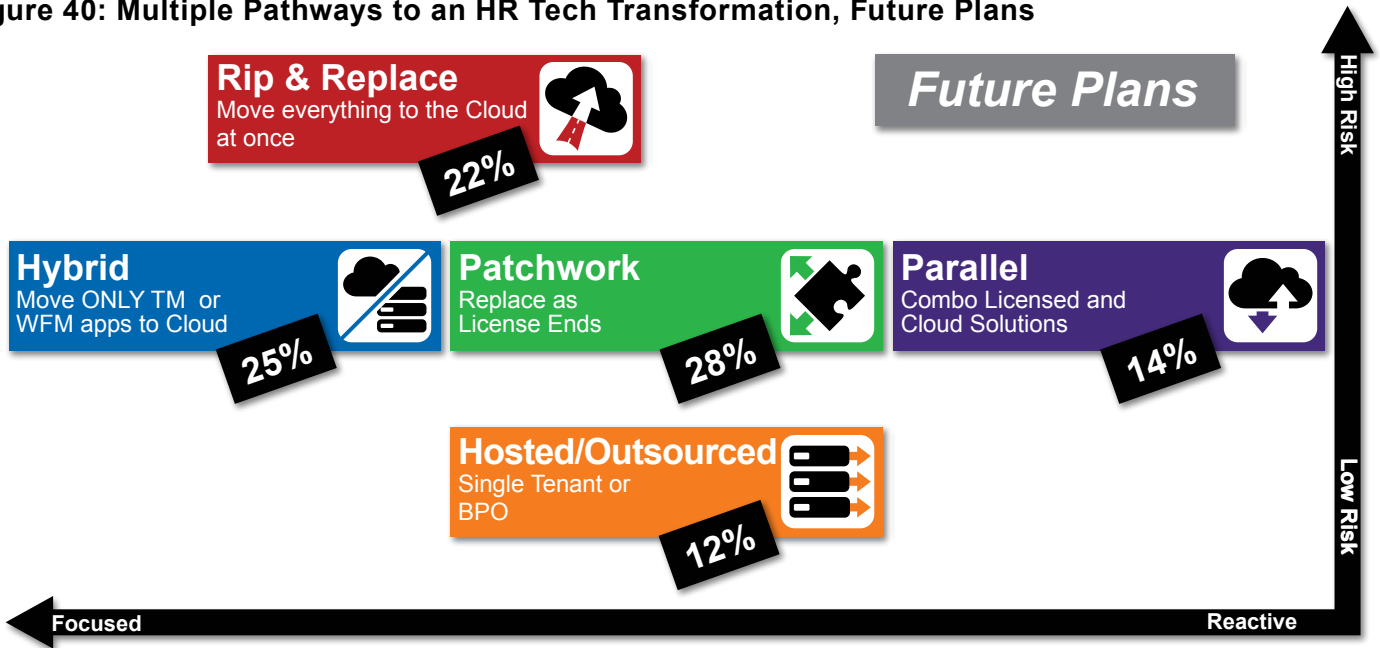
Breaking this data out by size, we see that Large organizations have made the greatest shifts in their approach to transformation, reporting a 24% drop in Hybrid plans and slight increases in Rip & Replace, Patchwork, and Hosted strategies. Overall data shows that choosing Parallel paths is becoming more popular with Small organization as they run both Licensed/On Premise and Cloud solutions over the same application area.

Figure 41: Multiple Pathways to an HR Tech Transformation by Size
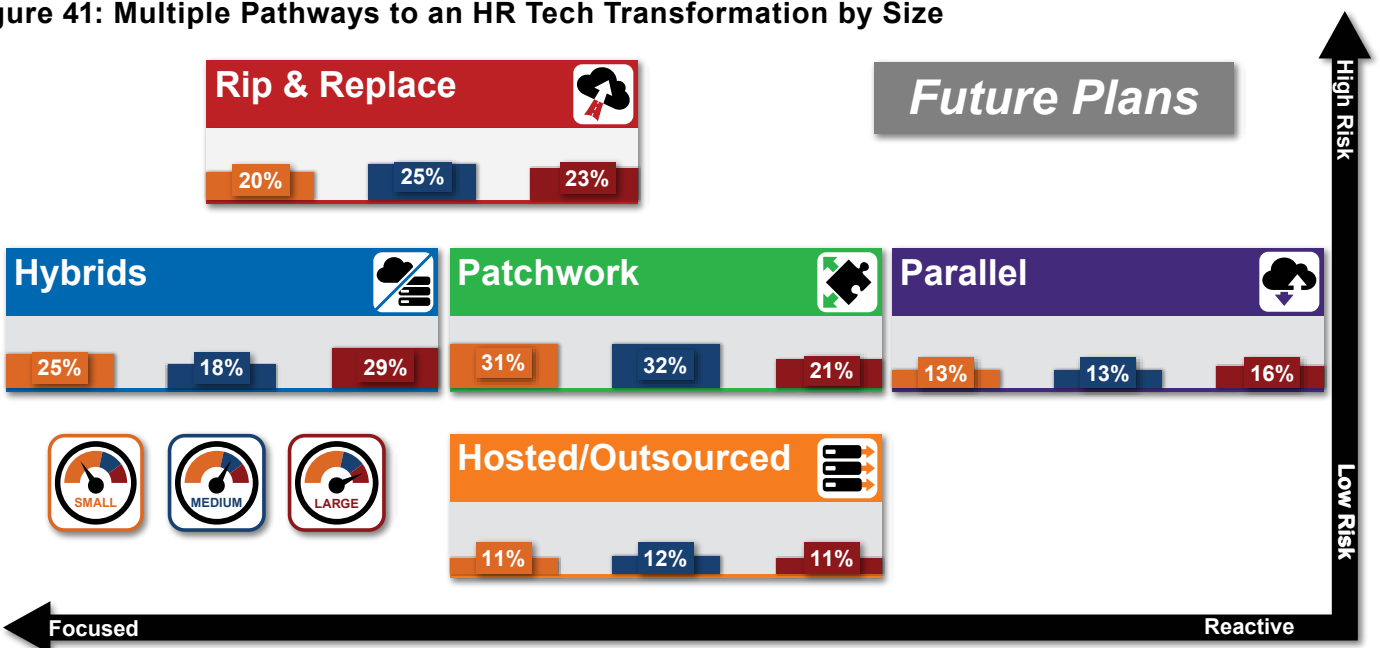
HR Technology Adoption and Outcomes

Strategic and environmental transformations are important for organizations building sustainable HR Technology systems to meet both workforce and business needs. No process or technology adds value to an organization unless it is utilized. A new question for 2018 asked organizations about current HR Technology environments: only 52% use their environments to Influence Workforce Business Decisions, while 38% use them to Inform Business Strategy. Organizations with No HR Systems Strategy are one-and-a-half times less likely to use HR Systems to Influence Workforce Business Decisions than those with an HR Systems Strategy.

Figure 42: HR Technology Environment Usage
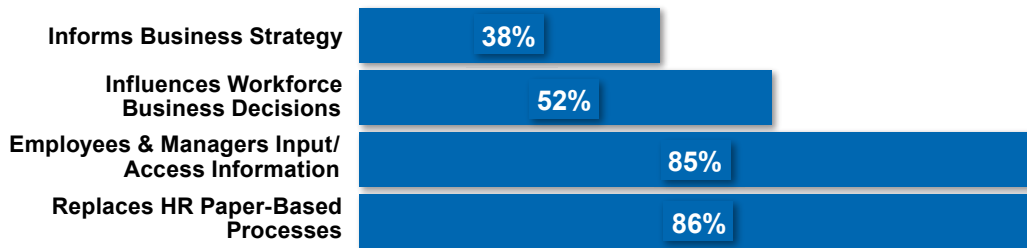
No HR Systems Strategy

1½X

less likely to use HR Systems to Influence Business Decisions

The question of strategic HR Technology environment use can be a maturity issue, as larger or more mature organizations are more likely to use their environments strategically; Large organizations are 10% more likely to use them to Inform Business Strategy than their Medium and Small counterparts. Other factors such as an HR Systems Strategy, measuring HR Technology adoption, or being a Data Driven organization also had an impact on HR Technology environmental use—these variables are not size dependent.

When evaluating the effectiveness of existing HR applications to meet an organization's most basic business needs, we see that sentiment continues to be positive for HR Technology solution providers; 75% of organizations report that their current HR Systems applications either Always or Most of the Time meet their business needs.

Figure 43: HR Technology Meeting Current Business Needs
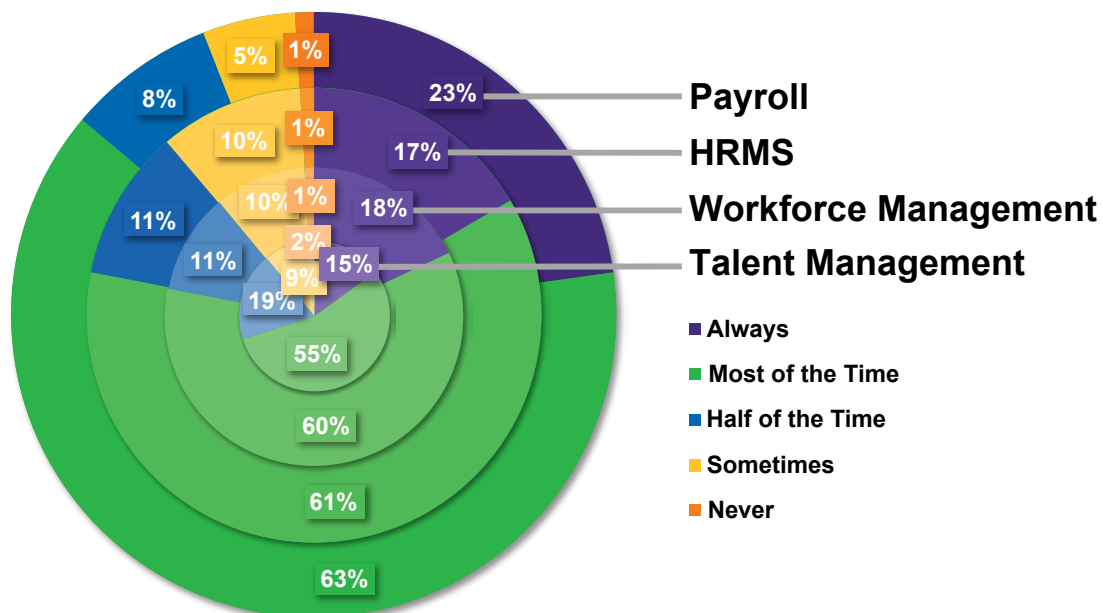
No major differences were seen in how well applications meet an organization's business needs by size or region, but effectiveness does differ dramatically by industry. Current HRMS environments are most likely to Always meet business needs for Professional Services, High Tech, and Finance organizations, while Healthcare, Government, Education, and Nonprofit organizations are less likely to have HRMS environments that Always meet their needs

Figure 44: HRMS Always Meets Business Needs by Industry

Bus/Prof Services	High-Tech	Finance/ Insurance	Ag/Mining/ Const	Trans/Comm/ Utilities	Retail/ Hospitality	Manu- facturing	Healthcare	Government	Education	Nonprofit
26%	22%	21%	21%	17%	16%	15%	13%	13%	10%	9%
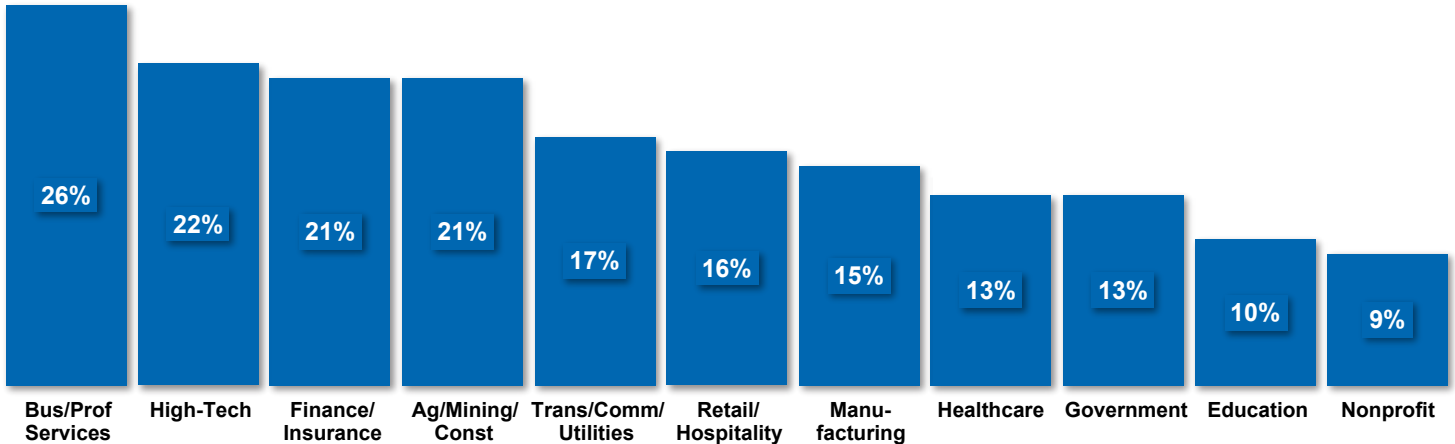
Another area where we see differences in the ability of a system to Always meet business needs is deployment methodology. When comparing High Cloud—those with their HRMS, Payroll, WFM, and TM applications in the Cloud—versus Low Cloud environments, we see that High Cloud organizations were twice as likely to report that HR applications Always meet business needs in all categories; however, the percentage of Low Cloud organizations that believe that their applications Always meet business needs almost doubled this year.

Figure 45: Systems Always Meets Business Needs Higher for High Cloud Deployment

	Payroll	HRMS	WFM	TM
High Cloud	31%	24%	21%	19%
Low Cloud	21%	14%	16%	13%

■ High Cloud   ■ Low Cloud
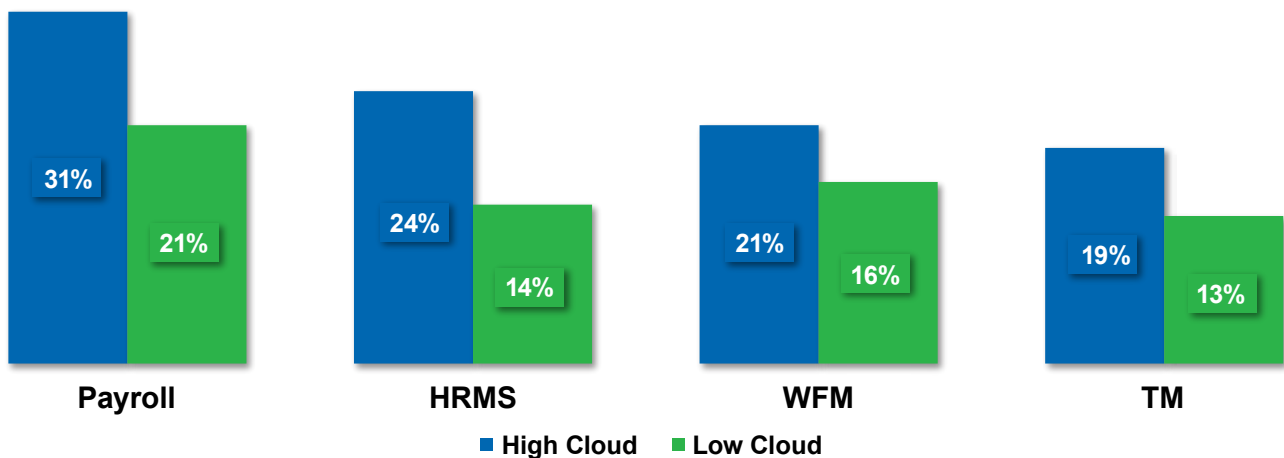
Since only 17% of organizations felt that their HR systems Always meet their business needs, we wanted to understand the gaps faced by the other 83% of organizations. The number one issue identified across all application areas—by almost 50% of organizations—was Configuration and Customization Limitations. This was followed by Functionality Gaps for 44% of organizations, and Internal Knowledge and Skills were a major gap identified by 24% of organizations. These gaps are opportunities for vendors and system integrators to address issues beyond technology.

Figure 46: Users' Views on Application Gaps

Gap	Payroll	HRMS	Workforce Management	Talent Management
Config/Cust Limitations	49%	52%	46%	49%
Functionality Gaps	39%	48%	41%	47%
Reporting	40%	39%	41%	33%
Integration Issues	35%	36%	33%	31%
Poor Usability	24%	28%	29%	29%
Internal Knowledge	22%	25%	23%	24%
Cost	23%	26%	19%	19%
Customer Service	29%	23%	19%	16%
Upgrades/Updates	17%	22%	16%	14%
Performance/Stability	13%	14%	13%	12%
Scalability	11%	11%	11%	11%
Compliance/Security	7%	8%	6%	5%

Administrative Applications

Administrative applications were the first HR Technology environments to be automated and are generally still the first HR applications deployed by organizations today. To understand your Administrative applications, it is important to understand two things: their development history and the concept of effective dating.

Originally Administrative applications were designed to reduce paperwork, time, and manual effort required to pay employees and record sensitive personal identification information. These applications were designed solely for the HR Administrative staff; employees and managers were never expected to use these systems. Although these applications improved timelines, there was no such thing as real-time process management, so the term *effective dating* became critical in HR. These new HR applications were needed to manage this multi-dimensional view of time for every bit of data and enable systems to create an audit trail for timeline changes.

Over time, organizations realized that they could become even more efficient by granting employees and management direct access to these applications so that they could enter their own information and access data as needed. Since the HR Administrative areas and the Employee/Management areas of these applications evolved along separate timelines, depending on the age or maturity of your administrative applications— these two areas (HR Administration and Employee/Manager Self Service) may be separate applications with different design elements and maintenance schedules. These elements may also have different effective dating or record auditing standards.

Effective dating is the date upon which something is considered to take effect, may be a past, present, or future date, and can be different from the date when the event occurs or is recorded. *For example, you might get a raise on October 1st, but the paperwork doesn't make it to HR until October 15th. The paychecks for that month have already run. HR enters the raise, effectively dates it for the 1st, and checks that the system adds an increase for October + November to your paycheck run for November.*

Today, Administrative applications come in multiple formats: as part of ERP suites, HR suites, or as stand-alone applications. They also play diverse roles within HR Technology ecosystems, depending on the available level of Employee/Manager Self Service, regional breadth, and reporting capabilities. These applications see the highest overall adoption levels, regardless of organizational size.

Figure 47: Administrative Application Adoption Today and in 12 Months

	In Use	12 Months	SMALL	MEDIUM	LARGE
Payroll	96%	2%	96%	97%	96%
Core HRMS	90%	3%	85%	97%	99%
Benefits Administration	83%	6%	80%	90%	85%
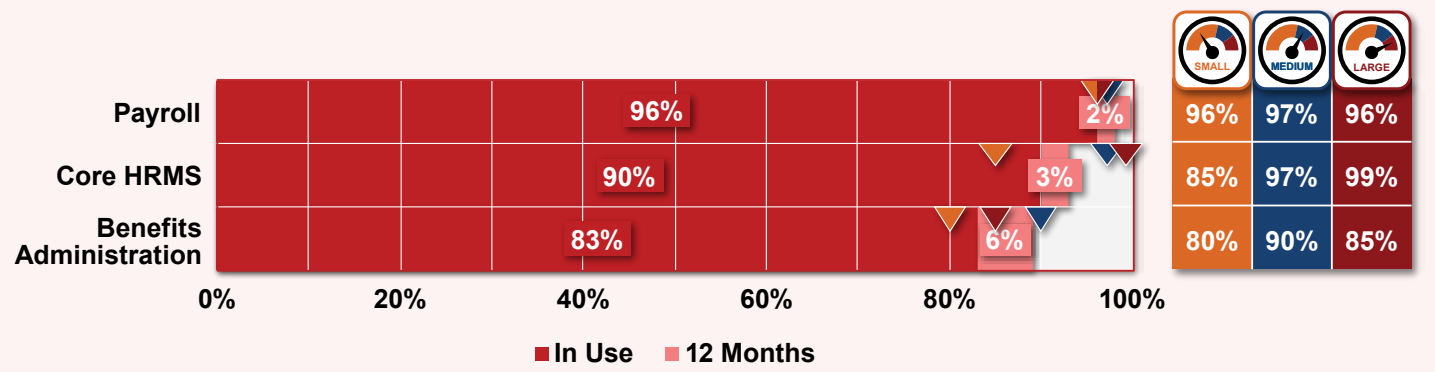
Payroll Applications

Payroll, the first and most universally adopted Administrative application, achieved **96% adoption** this year. The small percentage of organizations not using a complete Payroll solution note that they are using financial tools or accounting firms to handle Payroll for employees.

A key question for an organization's Payroll management involves whether Payroll is handled completely In House and/or is outsourced. This question can be complicated by the number of regions—and even countries—occupied by an organization's workforce, and the various legal and compliance regulations to which it is held accountable regarding employee time tracking and payment. We rarely see more than 20% of aggregate organizations doing some level of Outsourcing, with either a Co-Outsourced function or a Fully Outsourced function where administrative tasks are outsourced yet keep Payroll management in house. Medium organizations are the least likely to Outsource Payroll; Small organizations are 33% more likely to Outsource Payroll than their Medium counterparts, while Large organizations are almost 80% more likely to Outsource Payroll.

Figure 48: Payroll Outsourced, 2015–2018
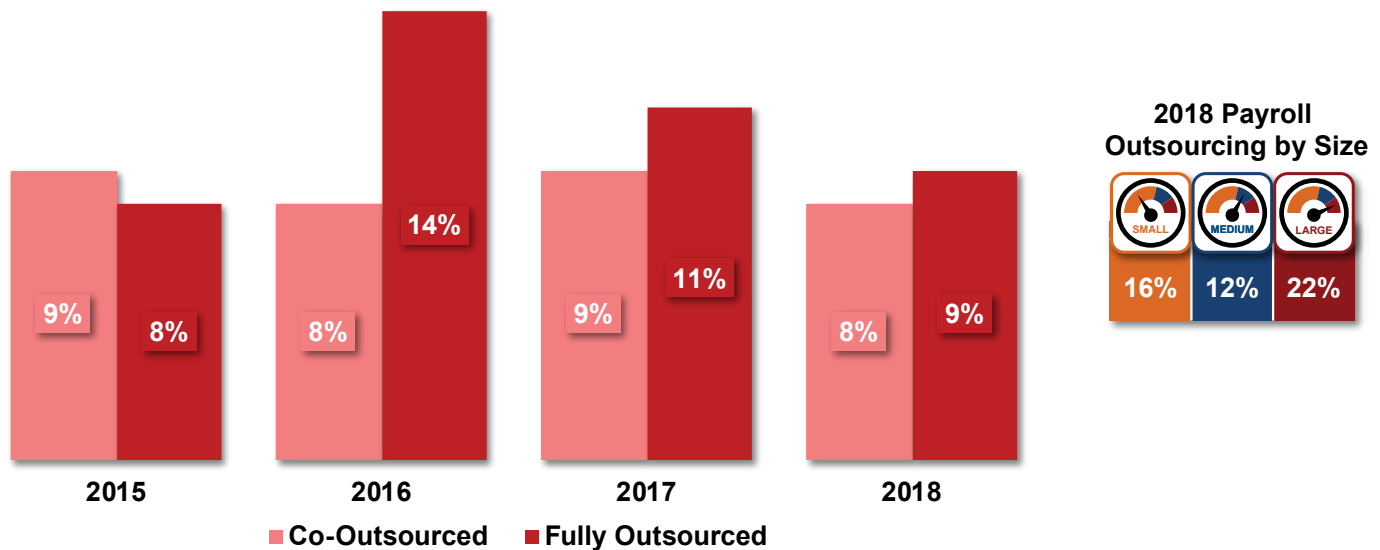
Although Payroll processes can be complex and fraught with regulation requirements, Payroll is the HR Application most likely to meet an organization's current business needs. Currently, 64% of organizations are comfortable that their Payroll application meets their businesses needs Most of the Time, and 23% responded that it meets their needs Always. Replacing a Payroll application is difficult and time consuming, thus explaining why organizations retain existing vendors.

Many of the Cloud solutions offered by the larger Payroll providers are still maintained as single-tenant, vendor-hosted solutions, rather than as a multi-tenant SaaS model. Compliance requirements and solution performance expectations may determine whether this distinction is important to an organization, but they often limit the modern consumerization of these applications, which can include Mobile access and real-time data.

When Payroll applications meet organizational needs only Sometimes or Never, organizations were 11 times more likely to replace a Payroll solution in the next 12 months. In aggregate, 28% of organizations are either evaluating their options or planning to replace their current Payroll application. Larger organizations are still more likely to be planning or evaluating a change in Payroll this year at 40%.

Figure 49: Replacement Plans for Payroll Applications
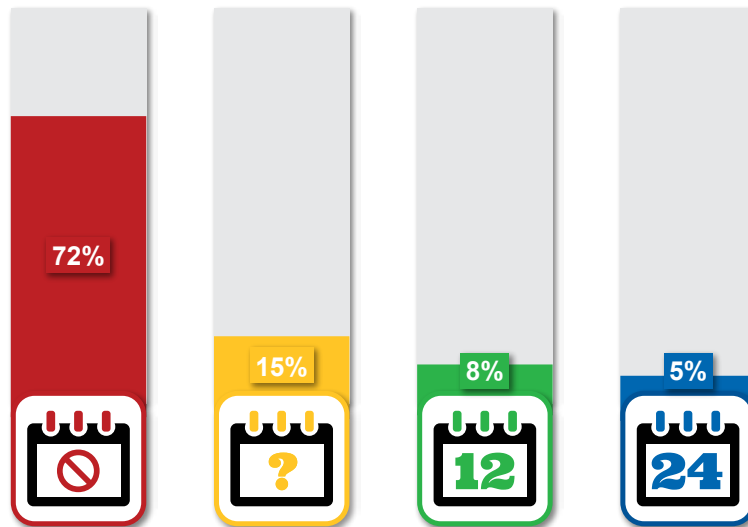
The length of time a system has been deployed plays a major role in Payroll application replacement plans. Organizations planning to replace their current Payroll application in the next 12 months report that, on average, their current systems have been deployed for 8.62 years; those planning to make a change within 24 months have had solutions for an average of 10.85 years. The small set of organizations that felt their Payroll application only Sometimes or Never meets their business needs has some of the longest deployment times for Payroll applications at almost nine years.

Figure 50: Payroll Applications – Average Deployment in Years

By Size

By Change Plans
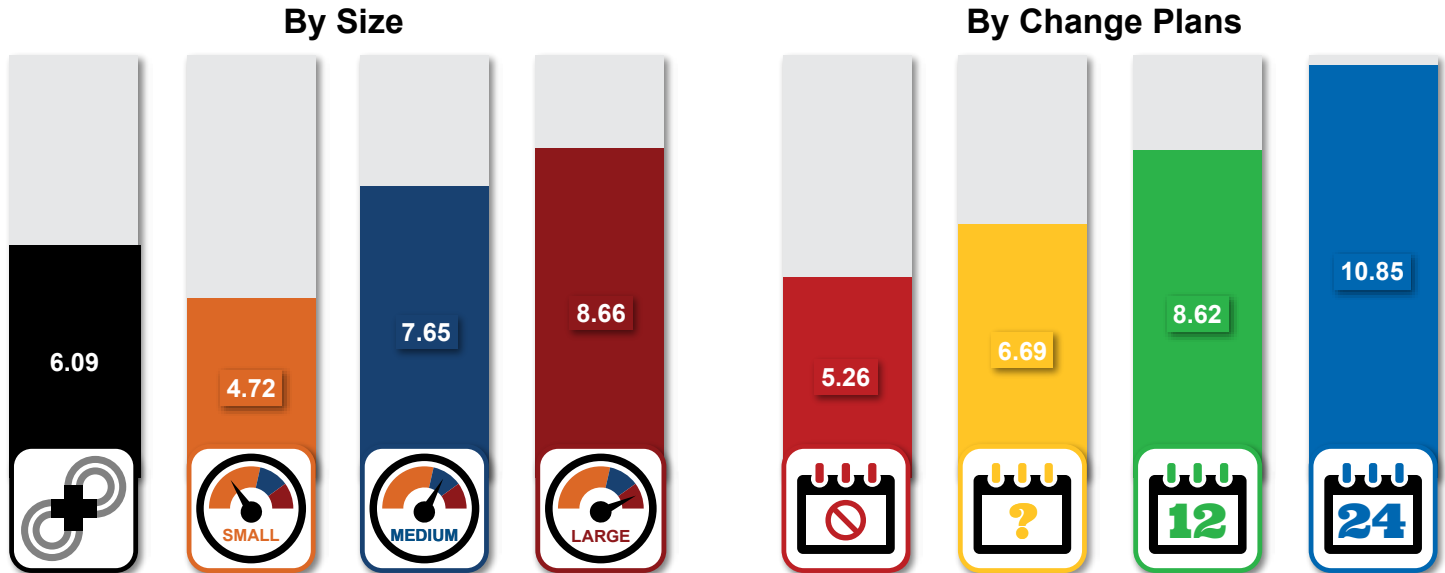
Payroll applications continue to evolve and expand into full-service HR applications for HR, Management, and Employees. Additional emerging trends to watch in Payroll applications include the following:

- Cloud Adoption
- Pay Equity and Transparency Tools
- Pay-to-Quit Policies
- Crowd-sourced Pay

- Robotic Process Automation
- Blockchain Payroll Solutions
- Open Marketplace Payroll Models
- On-demand Paycheck Options

Payroll Vendor and Solution Outlooks

For each application area we cover, we provide an outlook on the current state of vendor solution adoption and adoption plans for the next 12 months. This should not be considered Market Size data. We have chosen to break each application area into Small, Medium, and Large adoption trends, as adoption varies based on organization size. Note that columns do not add up to 100% as organizations may have multiple solutions in use.

The Payroll vendor landscape, although stable for the largest organizations, has seen a huge influx of new Cloud-based Payroll solutions that serve smaller organizations. This market is ripe for change, and we expect to see rapid shifts in the next few years as vendors take newer SMB solutions up market and organizations expand funding options, an example of which was Ceridian Dayforce's recent IPO.

Figure 51: Payroll Vendor Adoption by Size
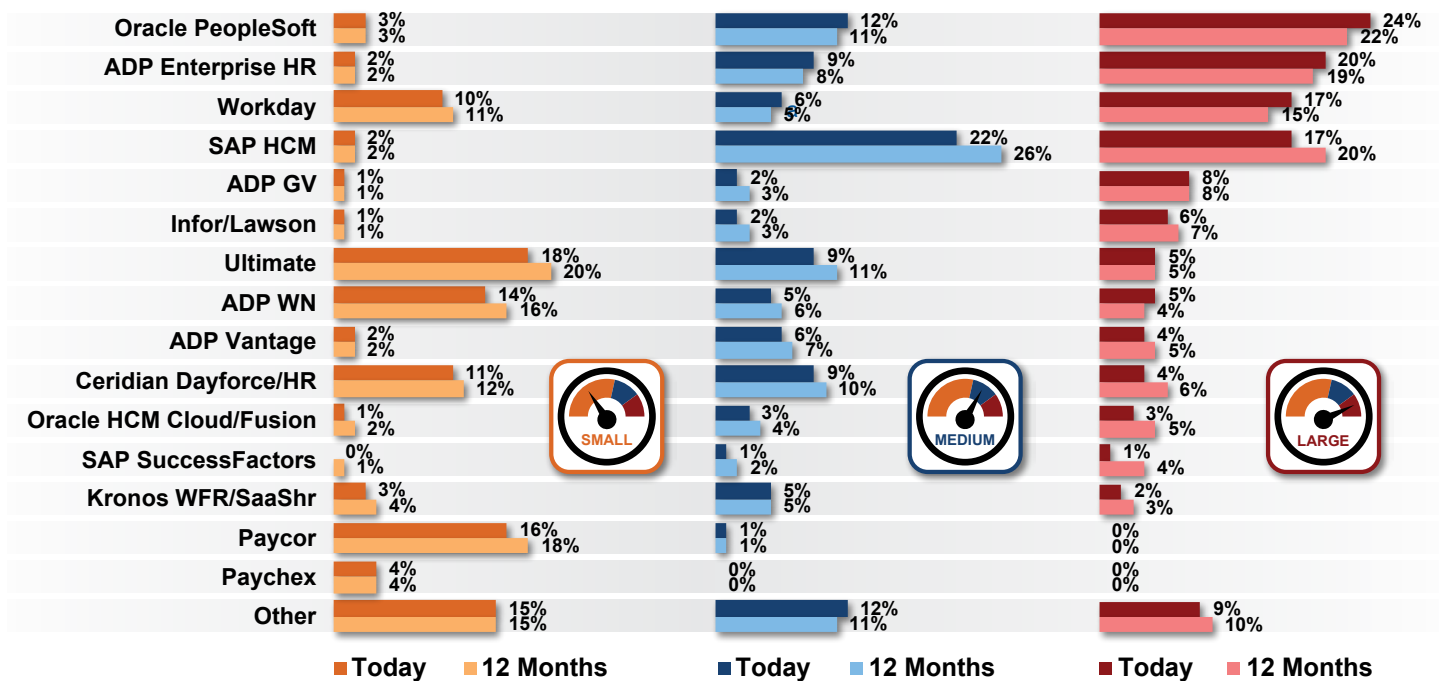
When combined, the ADP Payroll solutions continue to hold the largest overall adoption levels; however, when looking at data by size, Oracle PeopleSoft continues to hold the largest adoption for a single solution for Large organizations. ADP Enterprise HR moves to the second-highest adopted solution for Large organizations, while Workday holds the highest for Medium, and Ultimate for Small organizations this year.

The Other category (vendors that didn't reach 3% or more in our data set) is relatively stable for Payroll: 10–15% of organizations use a Payroll solution in this category. Most often mentioned solutions include the following:

- CertiPay
- Ellucian Banner
- Insperity
- Optimum
- Oracle EBS
- Oracle JD Edwards
- Paycom
- Paylocity
- Payroll Aggregators
- Payroll Outsources (NGA, Onesource Virtual, etc.)
- PeopleStrategy
- Sage
- Tyler Technologies

Core HR Management System Application

Central to most organizations' HR technology ecosystems is a Core HRMS that handles administrative record-keeping, serving as the single source of information about the workforce. More recent additions to standard HRMS functionality can include employee profiles, organizational structures, analytics tools, and contingent worker information. **Over 90% of organizations** currently have an HRMS. For most organizations, the HRMS sits at the heart of their HR and workforce data management needs and shares data with multiple HR applications.

Major HR transformation efforts often include an HRMS replacement effort due to the central role this technology plays in the employee and manager HR systems' UX and the flow of critical data within an organization. Large global organizations often have multiple Core HRMSs due to mergers, acquisitions, and unique regional requirements. Core HRMS solutions help HR functions to both understand their workforce and effectively communicate with employees, and 61% of organizations stated that their Core HRMS meets their business needs Most of the Time, while 17% of organizations report that their current HRMS solution Always meets their business needs.

In aggregate, 28% of organizations are either Evaluating their options or already planning to replace their current Core HRMS application, which is slightly lower than last year's 32%. Large organizations, at just over 41%, are more likely to be Evaluating or planning for a change in their Core HRMS this year than other organization sizes.

Figure 52: Replacement Plans for Core HRMS Applications
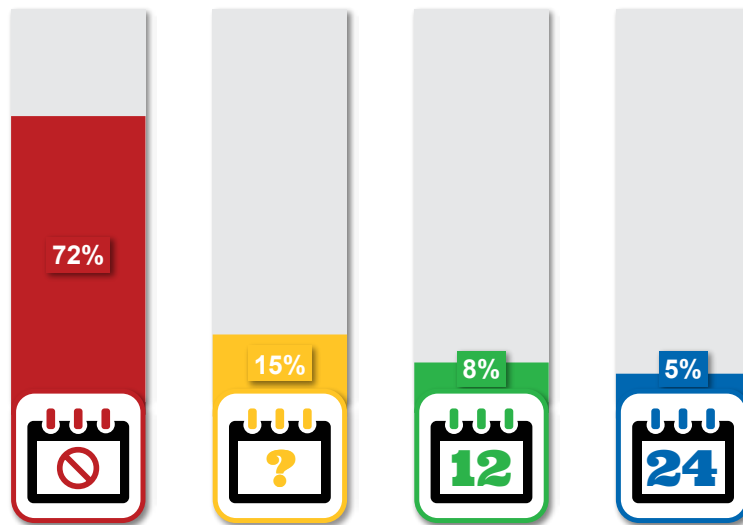
The vendor and deployment models of a Core HRMS play a major role in the decisions made concerning additional HR technologies. Replacing or upgrading a Core HRMS requires a considerable amount of work for both the HR and IT functions and can cause an organization to rethink its entire Enterprise HR Systems Strategy. Those organizations with multiple Core HRMSs due to mergers, acquisitions, or different regional requests have an even greater challenge when planning to replace or update a Core HRMS environment. Environment changes often require consolidation efforts of current applications prior to making an enterprise-wide change.

Similar to Payroll applications, the length of time a Core HRMS system has been deployed plays a major role in application replacement plans. Organizations planning to replace their Core HRMS application in the next 12 months report that, on average, their current systems have been deployed for 8.49 years; those planning to make a change within 24 months have had solutions for an average of 10.24 years. Organizations who responded that their Core HRMS application meets their organizational needs only Sometimes or Never were almost 9X more likely to be replacing their Core HRMS solution in the next 12 months versus the average organization; they also reported average application deployments at 8.5 years.

Figure 53: Core HRMS Applications – Average Deployment in Years

By Size				By Change Plans			
5.61	4.16 SMALL	6.76 MEDIUM	8.19 LARGE	4.54	7.81	8.49 12	10.24 24
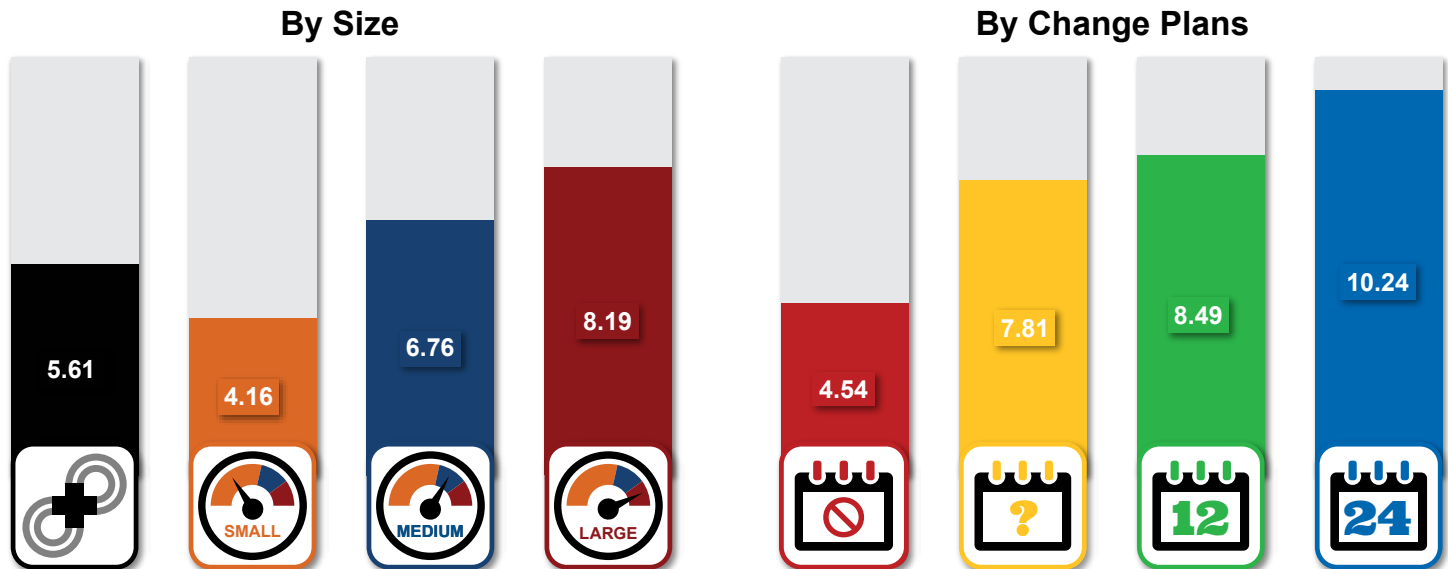
In the last five years, due to major competition in the vendor space, new Core HRMS applications have been developed with more valuable employee experiences, better data management models, and increased platform extensibility. Additional emerging trends to watch in Core HRMS applications are as follows:

- Continued Cloud Adoption
- Mobile Access
- HR Consumerization
- Voice Initiation/Chat Bots
- Contingent/Remote Worker Management
- Robotic Process Automation
- HR Standards Benchmarking
- Intelligent Services

Core HRMS Vendor and Solution Outlooks

The Core HRMS vendor landscape has seen rapid changes over the last five years as new SMB vendors have entered the market and existing vendors have shifted flagship products to focus on Cloud-based solutions. We will continue to see changes in this vendor landscape as the focus shifts from "single platform" to the creation of Core HRMS ecosystems with the creation of savvy marketplaces and partner relationships.

Another critical element of navigating the changing HCM vendor landscape involves understanding the different dynamics among vendors offering one-size-fits-all solutions versus those offering solutions across multiple smaller applications. In both cases, buyers expect a tightly connected relationship that includes transparency to a vendor's culture, business issues, and the achievability of published product roadmaps.

Figure 54: Core HRMS Vendor Adoption by Size
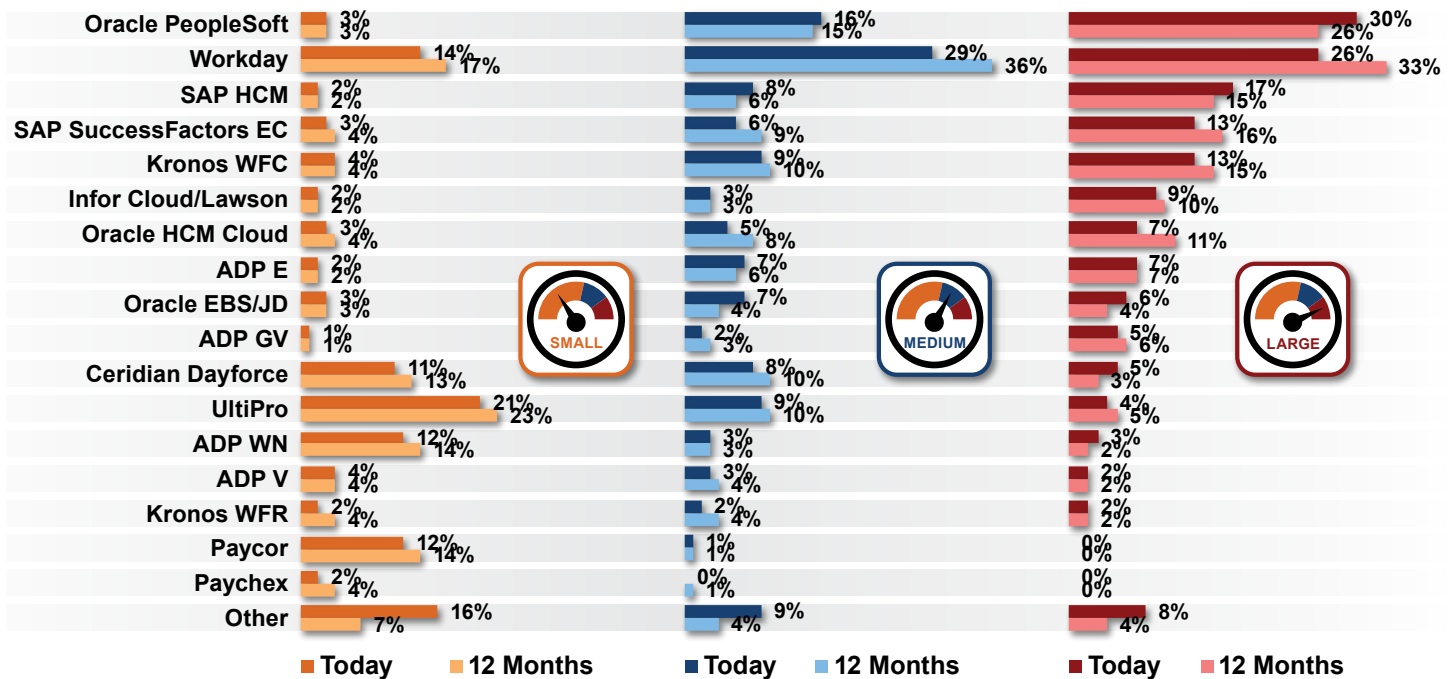
This year, Workday holds the top aggregate adoption level for Core HRMS; however, when broken out by size, we see that for Large organizations, Oracle PeopleSoft continues to stay slightly ahead of Workday. For Medium organizations, Ceridian Dayforce saw large adoption increases; for Small organizations, Ultimate made a jump of 8% points from last year. Paychex, a vendor focused on the smallest SMB market, debuts on our list this year.

The Other category (vendors that didn't reach 3% or more in our data set) was highly splintered: many of our respondents were very clear about their plans to move to a vendor currently on our adoption list. On average, 11% of organizations use a vendor in the Other category; the most often mentioned solutions include the following:

- BambooHR
- Cornerstone CSOD
- Ellucian Banner
- Paycom
- Paylocity
- PeopleAdmin
- PeopleStrategy
- Sage HR
- SilkRoad
- SumTotal
- Tyler Technologies

Benefits Administration Applications

Benefits applications and solutions, which sit under the Administrative application category, are experiencing major upheaval. These solutions range widely from simple U.S.-only Healthcare selection, enrollment, and data-capturing tools, to recent innovations, including global benefits, wellness programs, retirement, financial wellness, and wider Employee Assistance tools to manage major life events. On average, **83% of organizations** have adopted some form of Benefits application, but the overall adoption varies greatly by region. The U.S. has the highest adoption levels of Benefit applications at 86%, while Asia has the lowest adoption percentage at 48%. In the next 12 months, another 18% of Asian organizations plan to adopt Benefits applications, showing an increasing focus in this area.

Figure 55: Benefits Application Adoption by Region
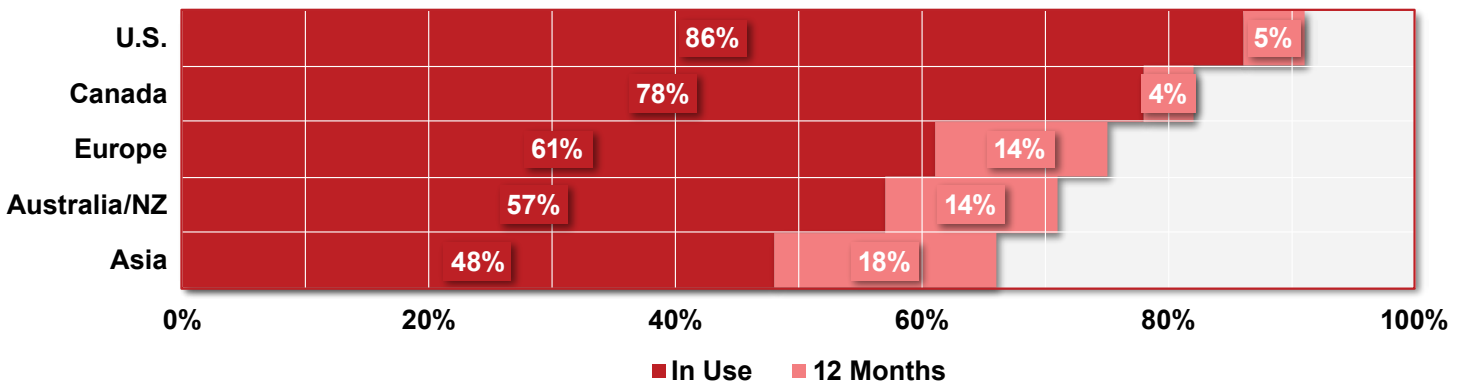
A growing role of the Benefit function involves managing the plethora of employee services and benefit validation work that fall outside of the traditional enrollment efforts for healthcare or financial benefit packages. These services range from wellness programs to relocation efforts and everything in between. In some cases, these services are purchased with the Benefits applications, in others they are purchased separately. We wanted to understand which services were being purchased specifically from the Benefits application vendors versus standalone. No additional services were purchased from Benefits application vendors by 12% of organizations, leaving 88% purchasing some level of services along with their current Benefits applications.

Figure 56: Additional Benefits Services Purchased with Benefit Applications
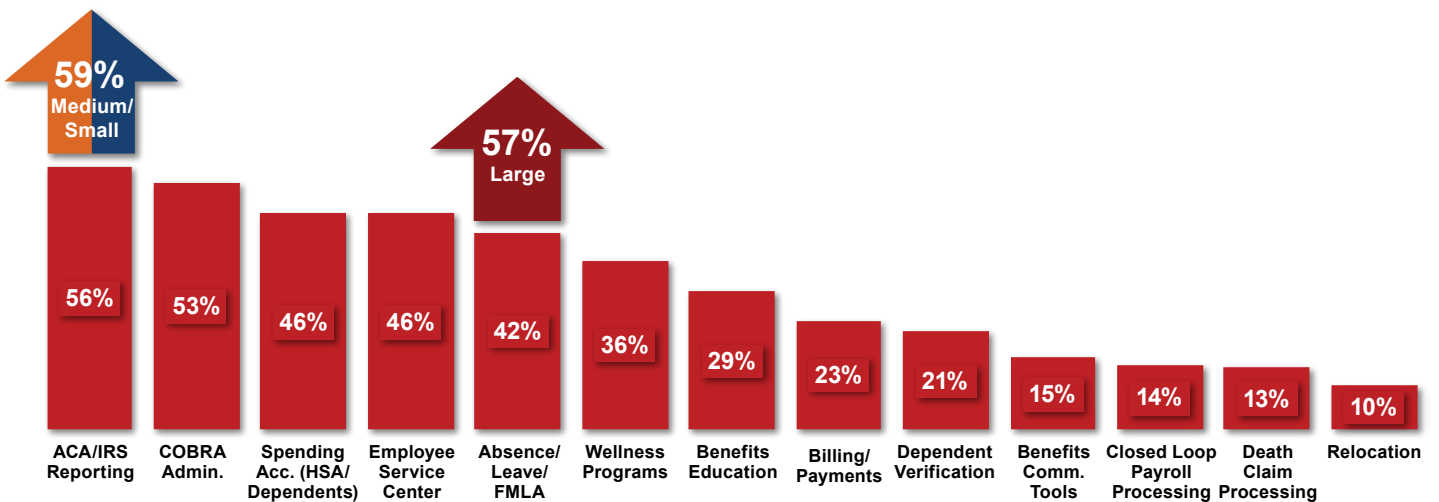
The additional service most often purchased in conjunction with the Benefits application was ACA/IRS reporting services. These were most likely to be purchased by 59% of Small and Medium organizations; only 44% of Large organizations were purchasing these services. Another variance by size was seen in the purchase of Absence and Leave Services, including Family Medical Leave Act (FMLA) Management where 57% of Large organizations were purchasing these services from their Benefits application provider, as compared to 37% of Small organizations. Other services mentioned that were not included in our original list are as follows:

- State Leave Compliance
- Employee Assistance Programs
- Tuition Reimbursement/Tax Management

When looking at the total number of additional Benefit services procured by organizations, we find an average of 4.07 for all organizational sizes and break this out by Small, Medium, and Large:

Figure 57: Additional Benefits Application Services – Average Number Purchased by Size
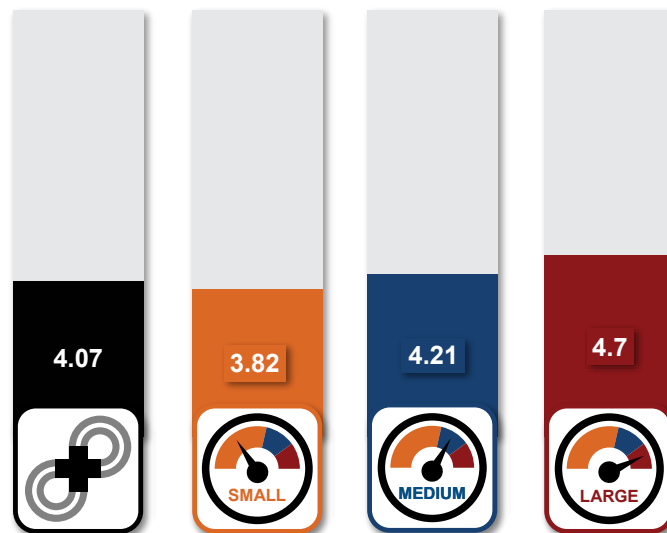
Few healthcare-based Benefit applications were originally designed to manage the growing number of non-traditional offerings now expected from both employees and global regulatory bodies. We've seen a significant increase in ancillary benefit/wellness-based applications designed to provide tracking and access to many of these services offered by organizations. We've also seen an expansion in the use of Mobile-enabled HR across the entire Benefit application space, and expectations are high for consumer-grade UX. Additional emerging trends to watch in Benefits applications are as follows:

- International Benefit Management
- Financial Wellness and Management Benefits
- Tele/Virtual Medicine
- Voice initiation/Chat Bots
- Company-Negotiated Healthcare Centers of Excellence
- Healthcare Standards/Usage Benchmarking
- Intelligent Services

Benefits Vendors and Solution Outlooks

This is the third year that we've captured data on the Benefit application vendors, and we continue to see that this market is particularly segmented by size. Vendors rarely serve both Small and Large market segments, and organizations may leverage multiple vendors to meet their benefit needs.

Benefits vendors fall into three very specific category types:

- Enterprise Systems – Oracle, SAP, Workday, ADP, Infor/Lawson, UltiPro Ceridian, Paycor
- Benefit "Point" Solutions – Benefitfocus, Businessolver, etc.
- TBO (total benefit outsourcing, services and technology) – Aon Hewitt, Willis Towers Watson, Xerox, Mercer

Figure 58: Benefits Applications Vendor Adoption by Size
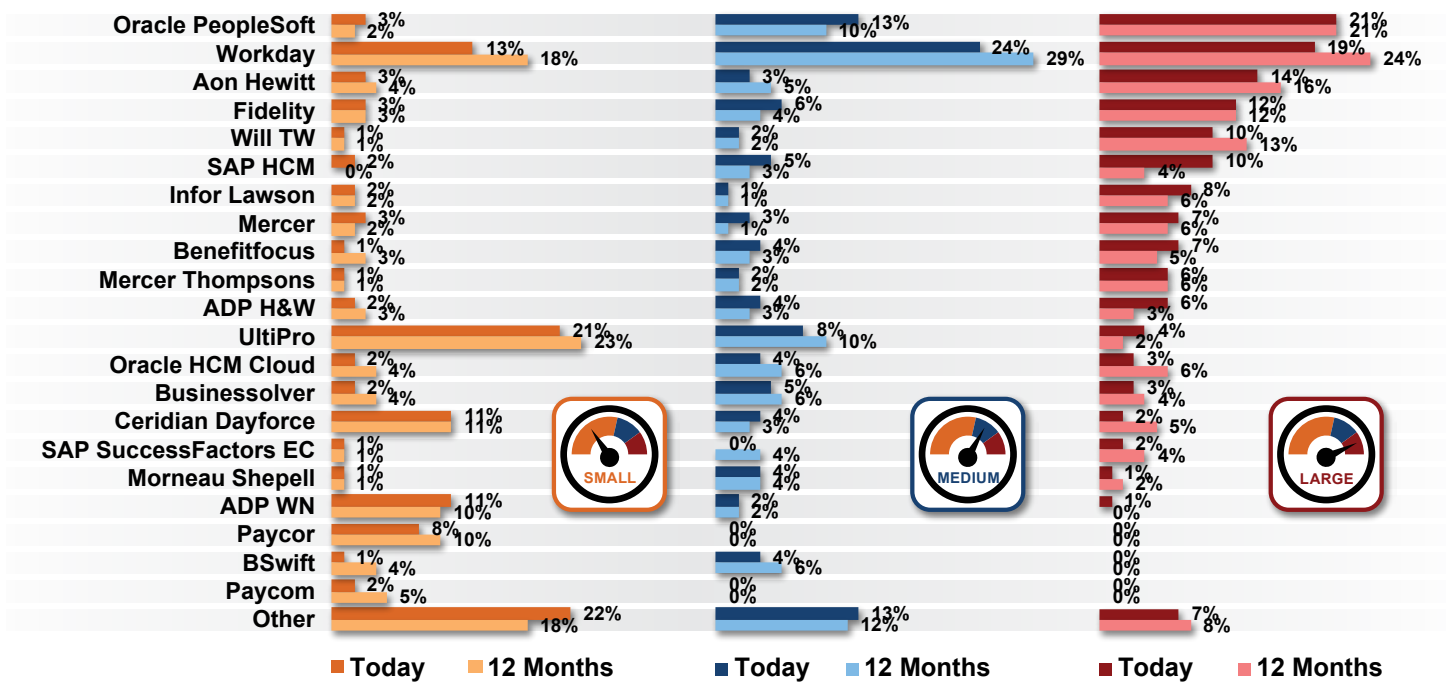
Across all sizes of organizations, our Survey respondents are currently using more Enterprise Systems—such as Oracle PeopleSoft, Workday, UltiPro, and Paycor—as their primary Benefits applications. Notable jumps in adoption from last year include Workday, Ultimate, and Ceridian. Only in the Large category do the TBO solution providers hold large audiences, with Aon Hewitt receiving the largest adoption percentage for that group of solution providers, followed by Fidelity and Willis Towers Watson. Additions to our Benefits "Point" Solutions this year include BSwift and Mercer's Thompsons Darwin product, but we believe these Solutions are under-represented in this data.

At just 7%, Large organizations are the least likely to use a vendor in our Other category, while Medium and Small report 13% and 22%. The most often mentioned solutions in the Other category include the following:

- Ascentis
- ADP Global View
- ADP Vantage
- BenefitWerks
- Ellucian Banner
- Employee Navigator
- Empyrean
- Insperity
- Kronos
- Optimum
- SmartBen

Service Delivery Applications

Service Delivery applications are an ever-evolving category of technologies that focus on the employee and manager experience within the HR function. These applications become critical when organizations are transforming from a compliance and administrative function to a more strategic HR function, relying on data provided in real time by employees and managers. Service Delivery applications typically include Employee Self Service (ESS), Manager Self Service (MSS), HR Help Desk, HR/Employee Portals, and/or Employee/Manager Portals. In some cases, the solutions are automatically rolled out with new Cloud HRMS solutions.

We have closely tracked the evolution of this application area for the last twenty years because it provides a clear indication of the maturity and strategic capabilities of the HR function within an organization. We can reasonably expect that an organization's investment in Service Delivery applications is highly dependent on the Core HRMS environment it has now or plans to have in the future. When we look at organizations that are in our Top Cloud category—those with their HRMS, Payroll, WFM, and TM applications in the Cloud—we see that Service Delivery applications are adopted at much higher percentages than organizations in the Not Top Cloud category.

Figure 59: Service Delivery Applications by Top Cloud Adoption

	ESS	MSS	HR Portal	Help Desk
Top Cloud	93%	83%	76%	50%
Not Top Cloud	76%	64%	65%	53%
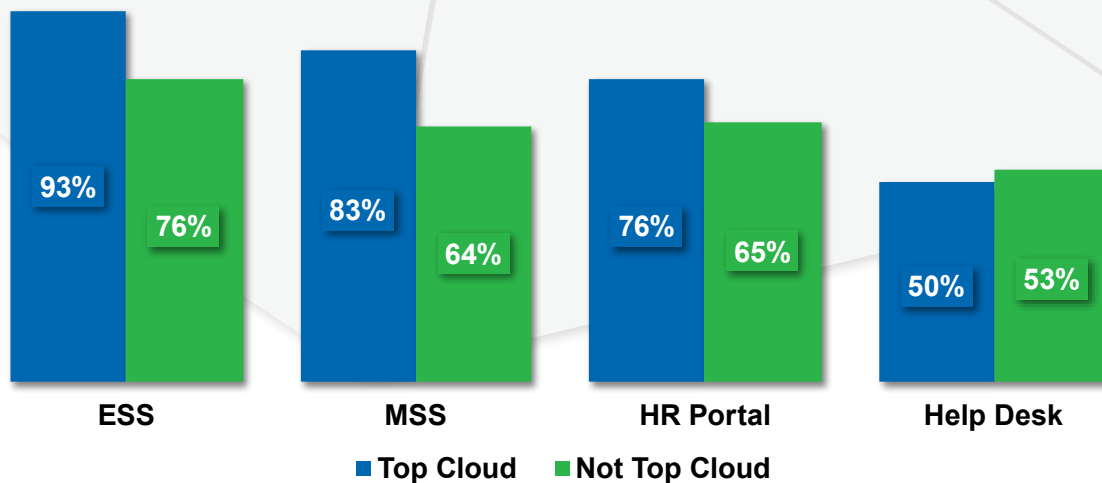
Figure 60: Service Delivery Application Adoption Today and in 12 Months

	In Use	12 Months	SMALL	MEDIUM	LARGE
Employee Self Service	78%	9%	74%	84%	84%
Manager Self Service	68%	13%	64%	71%	77%
HR Portal	66%	9%	65%	68%	64%
Help Desk	52%	8%	45%	58%	64%
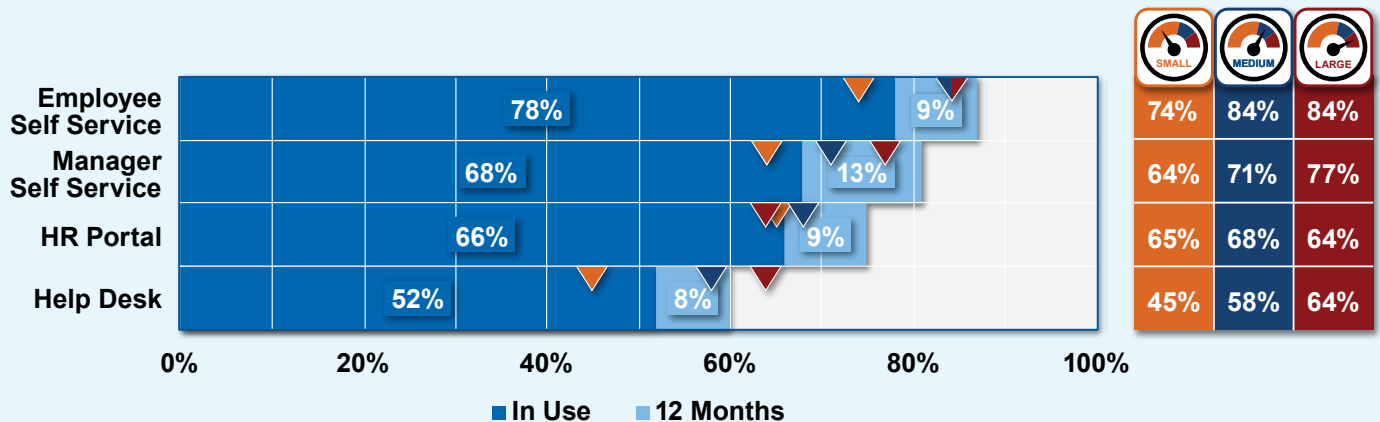
ESS and MSS adoption alone fail to provide the full picture of access to self-service applications; we often find that even when ESS and MSS are purchased, they are not always fully rolled out to Employees and Managers. On average, organizations roll out ESS to 77% of their workforce and 72% of their management staff; those numbers drop considerably for Not Top Cloud-based HR Technology environments as seen below.

Figure 61: Service Delivery ESS and MSS Actual Roll-Out Average
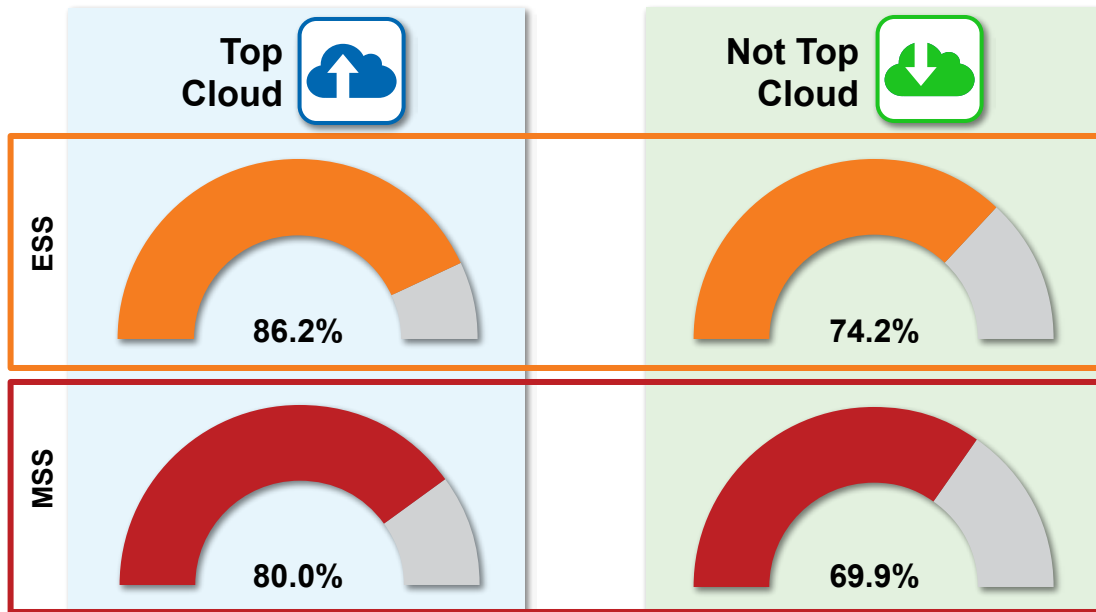
For organizations with fewer than 50% of employees or managers having access to ESS and MSS, the biggest barriers to providing MSS were interest and time constraints; for ESS, the barriers were more practical, and included lack of workstations for access and poor user design.

Figure 62: Barriers to Rolling Out MSS and ESS
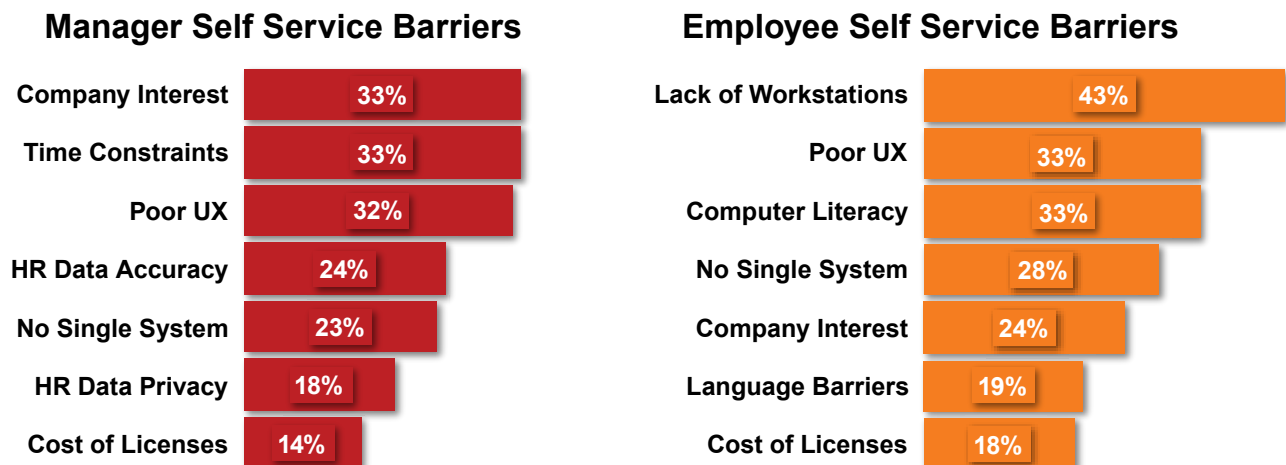
HR Help Desk Vendor and Solution Outlooks

Help Desk solutions are part of the complex mix of technology and process knowledge required for an HR Shared Services function. Shared Services centers deal in data, and the tools that capture, tag, and manage it are becoming increasingly important. Improving the service experience for the end user is not just about technology, but about the relationship an organization develops with its employees. A well-trained, supported, and prepared internal Help Desk function should be as important as any external-facing customer service or Help Desk initiative. To achieve this level of service, organizations may leverage an existing IT or sales Help Desk solution or find a solution tailored to the HR industry. In both scenarios, we see an increased focus on Mobile Help Desk solutions that can provide employees with 24x7 access to their critical HR information.

Figure 63: Help Desk Application Adoption by Size
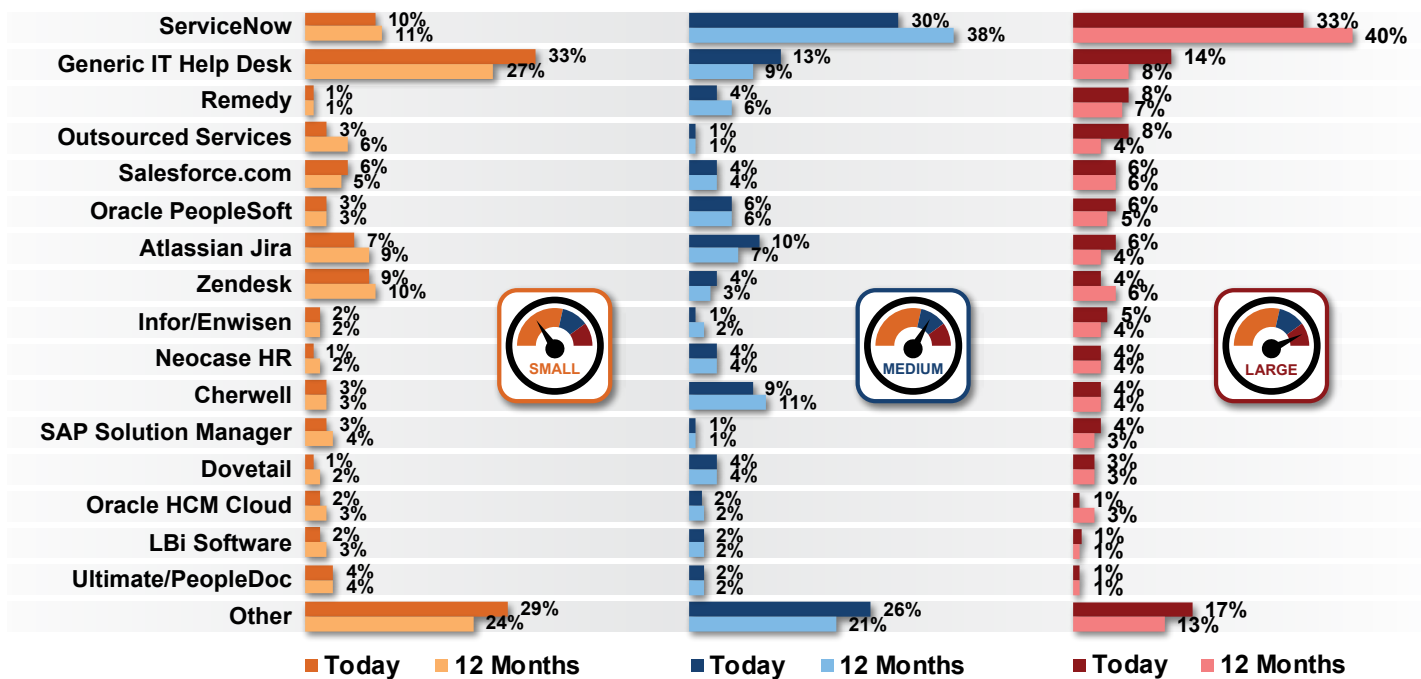
As the HR Help Desk space continues to grow, we see increased adoption of applications focusing on modern IT service models, specifically on HR processes and practices. Over the last several years, we've seen a dramatic increase in adoption in ServiceNow Help Desk solutions and are beginning to see similar yet smaller increases in organizations such as Zendesk and Cherwell. The Core HRMS market is also focusing on this area; Oracle HCM Cloud recently deployed its own Cloud-based Help Desk solution with embedded Machine Learning elements, and Ultimate acquired PeopleDoc, a modern Help Desk/Portal application out of Europe. We anticipate that the Help Desk industry will continue to see large strides as investments in enterprise innovations, such as Robotic Process Automation (RPA), Virtual Bot assistants, Machine Learning, and Artificial Intelligence (AI). These investments leverage the abundance of internal data to achieve higher business efficiency and automation.

The Other category (vendors that didn't reach 3% or more in our data set) continues to be extremely large in this area, particularly in the Small and Mid-Market Space. The most often mentioned solutions are as follows:

- AskHR by WillisTowers Watson
- FreshDesk
- Microsoft Dynamics, CA Service Desk
- Paycor
- SysAid

Workforce Management Applications

Workforce Management (WFM) applications help organizations manage the scheduling, assignments, and actual time in the work environment for their workforce. These processes are tightly connected to operational functions and can be managed from within operations or in partnership with HR. WFM applications are available in multiple buying options: they can be purchased as part of ERP suites, operations applications, HR suites, Workforce Management suites, or as stand-alone applications. Purchasing decisions are often made based on the complexity of an organization's time tracking and scheduling needs or regional regulations that require specific reporting. As the WFM applications market begins to move beyond a compliance focus, we anticipate WFM will become a major topic for many organizations.

Time and Attendance

Time and Attendance applications continue to be the most widely adopted solutions in the WFM category, with **90% adoption today** and continued plans for growth over the next few years. In previous years, Time and Attendance applications were adopted at high levels by organizations with large hourly and part-time workforces such as Retail, Manufacturing, and Healthcare; today, we also see high adoption levels by organizations in other sectors such as Financial Services, High Tech, and Consulting.

Absence and Leave Management

Absence and Leave Management can be a single application or separate applications, but the focus of both is managing employee time off; whether planned or unplanned, short or long term, legally mandated or simply an organizational benefit, all forms require copious amounts of communication and compliance tracking to manage effectively. These are the second most widely adopted WFM applications, as **65% of organizations** have Absence Management and **68%** have Leave Management In Use.

Figure 64: Workforce Management Application Adoption Today and in 12 Months

	SMALL	MEDIUM	LARGE
Time & Attendance	90%	90%	92%
Absence Management	64%	71%	76%
Leave Management	60%	68%	77%
Labor Scheduling	43%	46%	56%
Labor Budgeting	29%	39%	42%
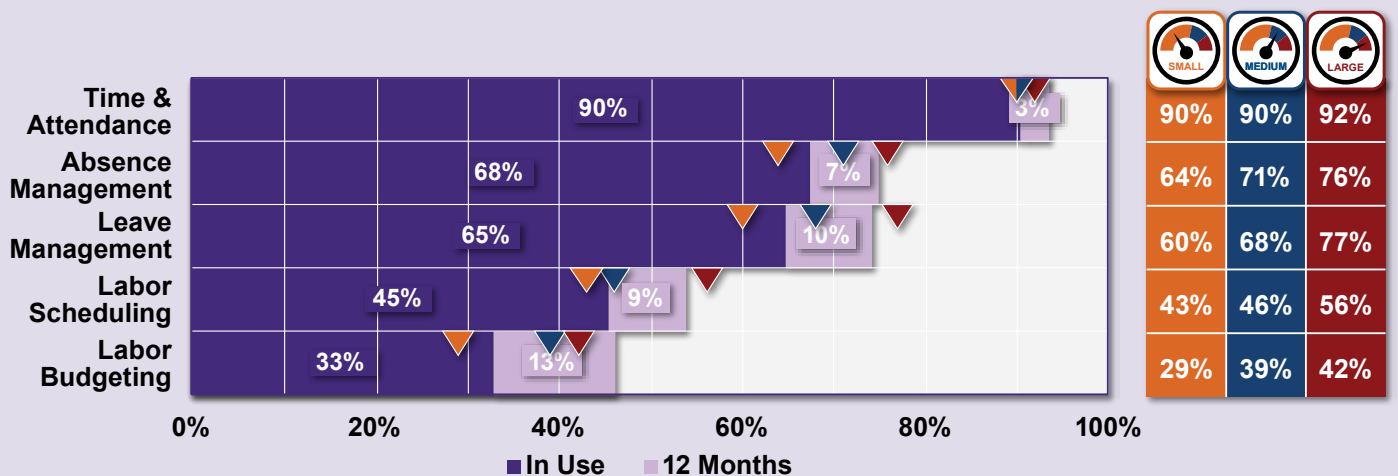
Labor Scheduling

Labor Scheduling applications are complex solutions built to manage the operational workflow of an organization, varying from simple applications managing a single location schedule to sophisticated applications tracking thousands of working locations with multiple shift formats and variations in required workforce qualifications. The Hospitality, Manufacturing, and Retail industries are well known for their heavy labor scheduling requirements, but we also see organizations with complex project management requirements or highly specialized skills require sophisticated WFM scheduling. Currently, **45% of organizations** currently use Labor Scheduling applications.

Workforce/Labor Budgeting

Workforce/Labor Budgeting applications are often overlooked despite their important role in workforce planning processes. Currently, **33% of organizations** utilize these applications that provide scenario-based forecasts for future schedules and labor requirements using historical data, standard work rules, and external factors. Recent advancements in Predictive Analytics and Machine Learning are having a major impact on these applications.

Organizations are slightly less satisfied with their current WFM applications than in other areas, including HRMS and Payroll, leaving room for improvement. This has led to a slightly higher number of organizations (33%) planning to replace their existing WFM applications or evaluating their options. However, 60% of organizations are satisfied with their WFM application, stating that it meets their needs Most of the Time and an additional 18% find that it Always meets their needs.

Figure 65: Workforce Management Applications – Average Deployment in Years
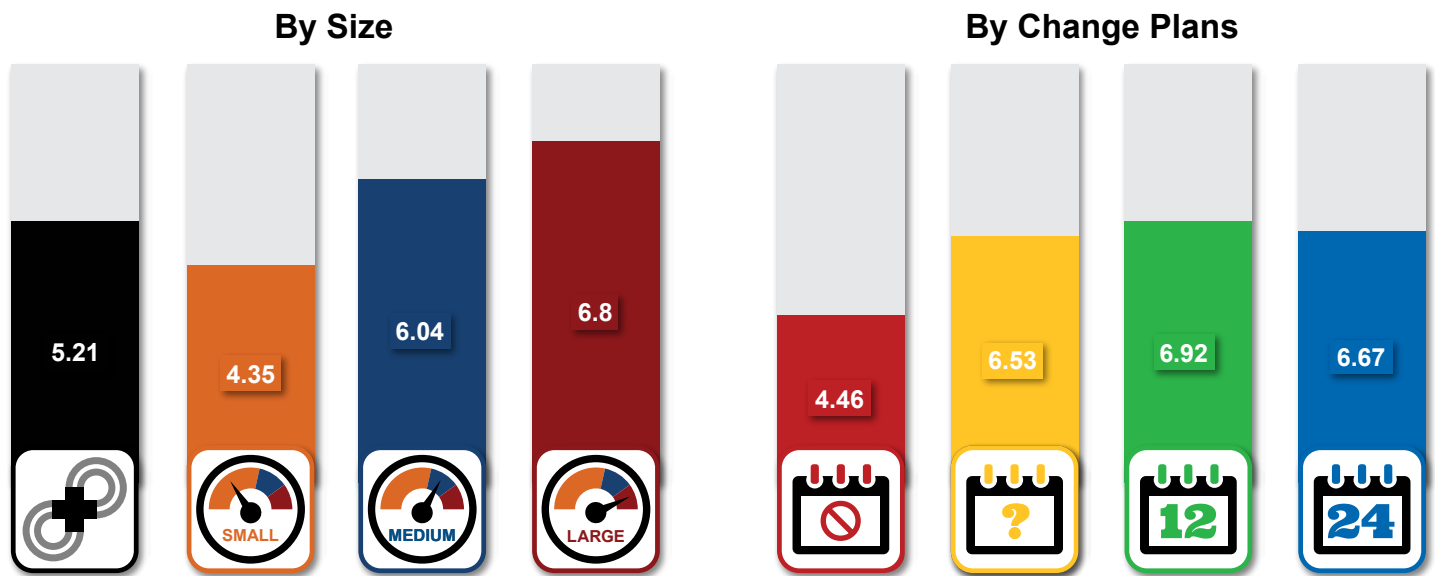
Organizations do not replace their WFM applications as frequently as their Payroll or Core HRMS systems. Those planning to replace their WFM application in the next 12 months report that, on average, their current systems have been deployed for 6.92 years; those planning to make a change within 24 months have had solutions for an average of 6.67 years. WFM applications, on average, have been deployed for a shorter amount of time than Administrative applications for Large and Medium organizations, but longer for Small organizations.

Figure 66: Replacement Plans for WFM Applications
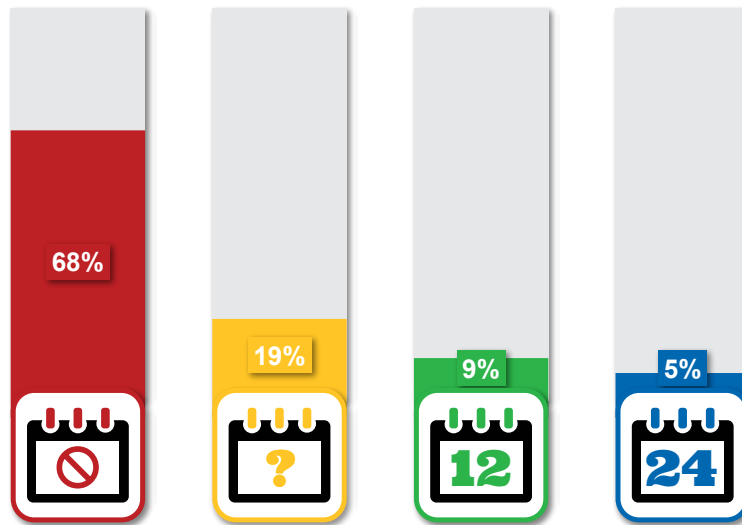
Although Cost remains the main factor when selecting a WFM application—and 58% of all respondents listed it as a primary factor—its importance has declined 15% since last year, indicating that organizations are less sensitive about cost due to the perceived value of the solution.

Figure 67: Primary Factors in Selecting Workforce Management Applications
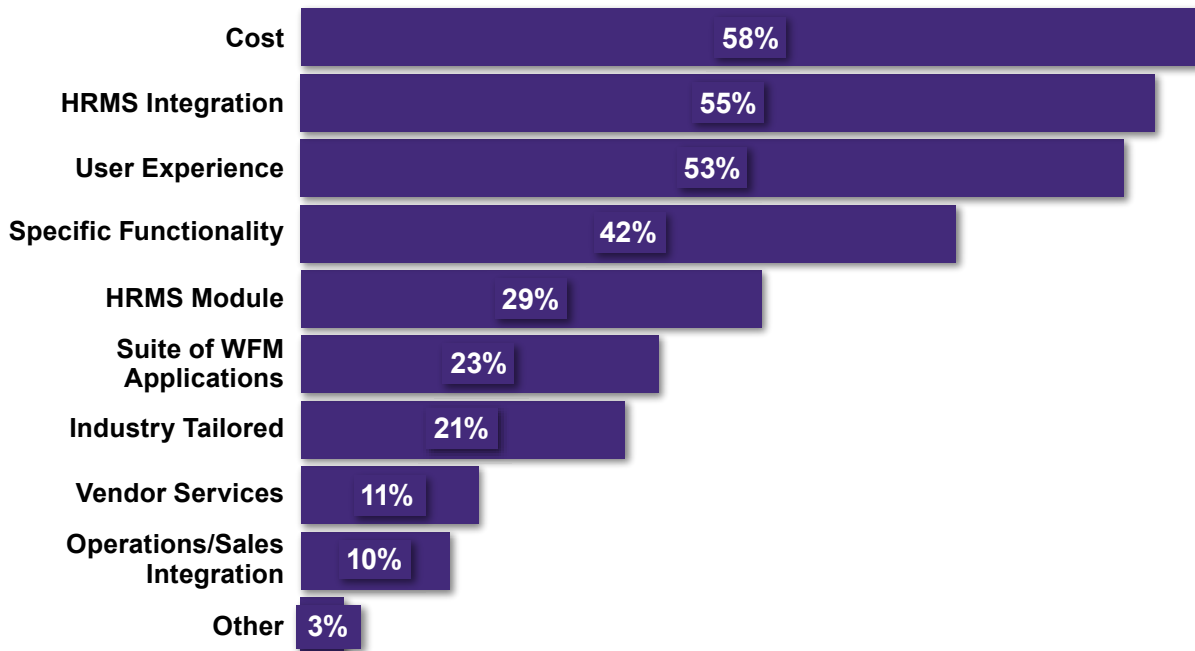
When looking at selection criteria by region, we found that organizations headquartered in the U.S. and Canada were more likely to focus on HRMS integration issues, while organizations headquartered in Europe and Asia were more likely to focus on Cost. The real differences in selection criteria are seen by industry: Nonprofits are influenced most by Cost, Retail values Industry Tailored and Operations/Sales Integration more than other industries, and Financial Services organizations are focused on User Experience.

Figure 68: Primary Factors in Selecting Workforce Management Applications, By Industry

Industry	Cost	HRMS Integration	User Experience	Functionality	HRMS Module	WFM Suite	Industry Tailored	Vendor Services	Operations Integration
Public Admin	47%	56%	28%	50%	28%	17%	31%	8%	
Financial	47%	60%	64%	37%	35%	22%	6%	12%	8%
AMC	51%	53%	31%	45%	30%	33%	33%	10%	8%
Healthcare	53%	54%	45%	45%	30%	22%	22%	11%	6%
Education	55%	45%	51%	38%	47%	27%	31%	7%	
Retail	56%	44%	51%	43%	19%	27%	40%	15%	23%
TCPU	59%	56%	51%	43%	33%	20%	20%	8%	7%
High Tech	60%	49%	51%	26%	34%	11%	15%	10%	6%
Manufacturing	62%	49%	52%	43%	25%	21%	18%	16%	10%
Services	65%	56%	49%	47%	27%	24%	18%	9%	29%
Non-Profit	70%	57%	51%	49%	27%	24%	7%	7%	7%

After asking organizations to identify their primary WFM vendor, we asked which applications this primary vendor provided; Time and Attendance was the most frequently provided application, followed by Absence and Leave Management—other applications were much more likely to be purchased separately. Organizations must often make difficult decisions between applications that meet their functional or industry-specific needs and those that are integrated or part of their existing application set.

Figure 69: WFM Applications Provided by WFM Vendor

Application	Percent
T&A/T&L	91%
Absence Management	67%
Leave Management	54%
Workforce/Labor Scheduling	41%
Workforce/Labor Budgeting and Forecasting	20%
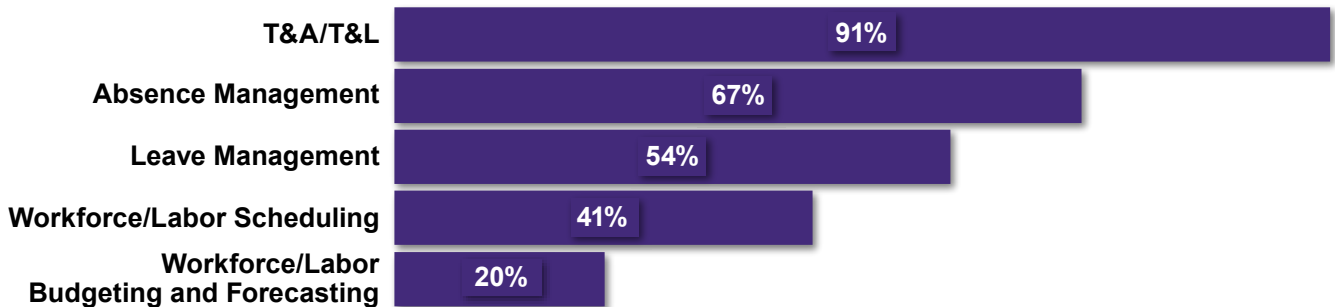
WFM applications are rapidly evolving due to their operational connections and large amounts of historical data, the new worlds of Machine Learning and Artificial Intelligence are finding these areas ripe opportunities to test their management capabilities. Additional emerging trends to watch in WFM applications include the following:

- Cloud Adoption
- Mobile Use and Document Processing
- Contingent Workforce Management
- 24/7 Employee Communications
- Self-Scheduling Employees

- Activity and Project Tracking
- Work/Productivity Burn-out Monitors
- Return to Work Resources and Tools
- Robotic Process Automation
- Integrated Healthcare and Disability Management

Workforce Management Vendor and Solution Outlooks

For each application area we cover, we provide an outlook on the current state of vendor solution adoption by our Survey respondents and their adoption plans for the next 12 months. Please note this should not be considered Market Size data. We have chosen to break each application area into Small, Medium, and Large adoption trends, as adoption varies based on organization size.

WFM applications are one of the least standardized HR system environments across Vendor Solutions. Vendors offer a wide range of features and functions, leading many organizations to purchase solutions from multiple vendors to meet their needs.

Figure 70: Workforce Management Applications by Size
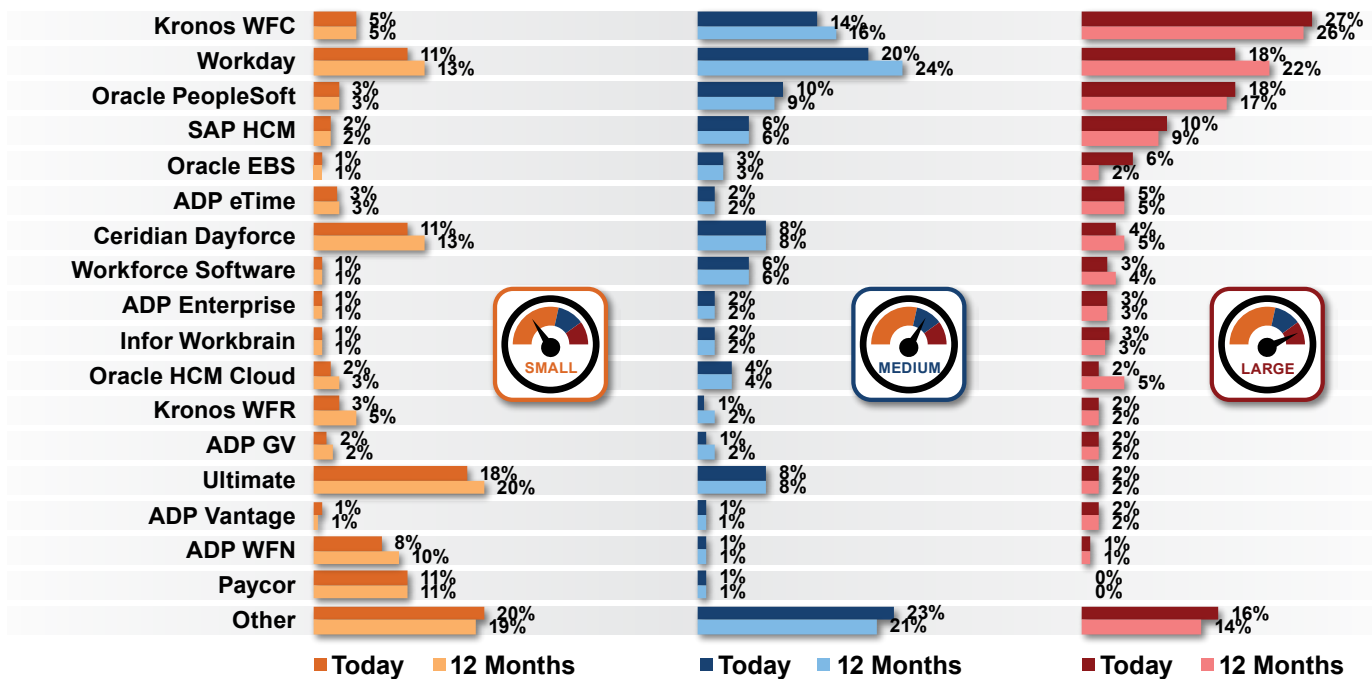
The WFM vendors with the largest overall market share have often been slow to rewrite their product codes for true multi-tenant Cloud environments. Last year, one of the largest vendors in the space, Kronos, released its newest Cloud-based application for enterprise customers, marking a critical shift for this industry. Adoption is increasing rapidly for many new entrants into this application area, including Workday, Ceridian Dayforce, and Ultimate—bringing more competition to the WFM marketplace and forcing vendors to be more innovative.

The Other category has seen a slight decline this year for WFM but still holds a relatively high overall percentage. This is especially true for Medium and Small organizations, with 20% and 23% of those organizations using an Other WFM solution. These organizations are most often adopting operational or industry-focused solutions that meet current business needs. The most often mentioned solutions in the Other category include the following:

- API
- BambooHR
- Deltek
- Ellucian Banner
- Frontline
- Insperity
- iSolved
- Paychex
- Paylocity
- Paycom
- StratusTime

Talent Management Applications

The primary functions of Talent Management (TM) applications are to assist organizations in managing the acquisition, performance, development, rewards, progression, and succession of their workforce. These processes are often defined in terms of the employee lifecycle. When organizations understand the value of their talent, they leverage the TM processes and supporting applications as strategic management tools that are essential to achieving operational outcomes. Although WFM and TM application categories are separate in their focus, they both benefit organizations that want to balance business needs with employee aspirations. Both WFM and TM have a major impact on employee culture, engagement, and operational performance.

Organizations are currently re-evaluating their approach to key process areas traditionally managed with TM applications: Recruiting, Performance Management, and Learning. These application areas are experiencing transformations as Recruiting processes focus heavily on passive candidate tracking, including talent pool management, Social outreach, and marketing campaigns. Performance processes that once focused on annual events, key roles, and confidential assessments are now being transformed into continuous feedback models. Organizations are working to tailor these models to meet enterprise-wide individual needs and build-out expectations of transparency and trust. We also see that Learning technologies, originally designed to adhere to strict reporting structures and event management models, are having difficulty with the task of altering architectures to accommodate constant input and personalization.

Organizations are more satisfied with their HRMS, Payroll, and WFM solutions than their TM solutions; 55% report that their existing TM applications meet their businesses needs Most of the Time and only 15% responded that they Always meet their needs. Lower satisfaction levels for TM applications lead to higher replacement levels, as 35% of organizations are either evaluating their options or already planning to replace their current primary TM application. The Utilities/Transportation (47%) and Education (42%) industries are most likely to make a change.

Figure 71: Talent Management Application Adoption Today and in 12 Months

	SMALL	MEDIUM	LARGE
Recruiting (79% In Use, 8% 12 Months)	73%	87%	91%
Performance Management (66% In Use, 15% 12 Months)	58%	75%	79%
Onboarding (60% In Use, 19% 12 Months)	57%	68%	58%
Learning (57% In Use, 15% 12 Months)	46%	69%	78%
Compensation (49% In Use, 17% 12 Months)	39%	61%	68%
Profile Management (45% In Use, 11% 12 Months)	41%	53%	51%
Succession Management (29% In Use, 20% 12 Months)	21%	30%	51%
Career Planning (28% In Use, 19% 12 Months)	22%	33%	43%

Legend: ■ In Use ■ 12 Months
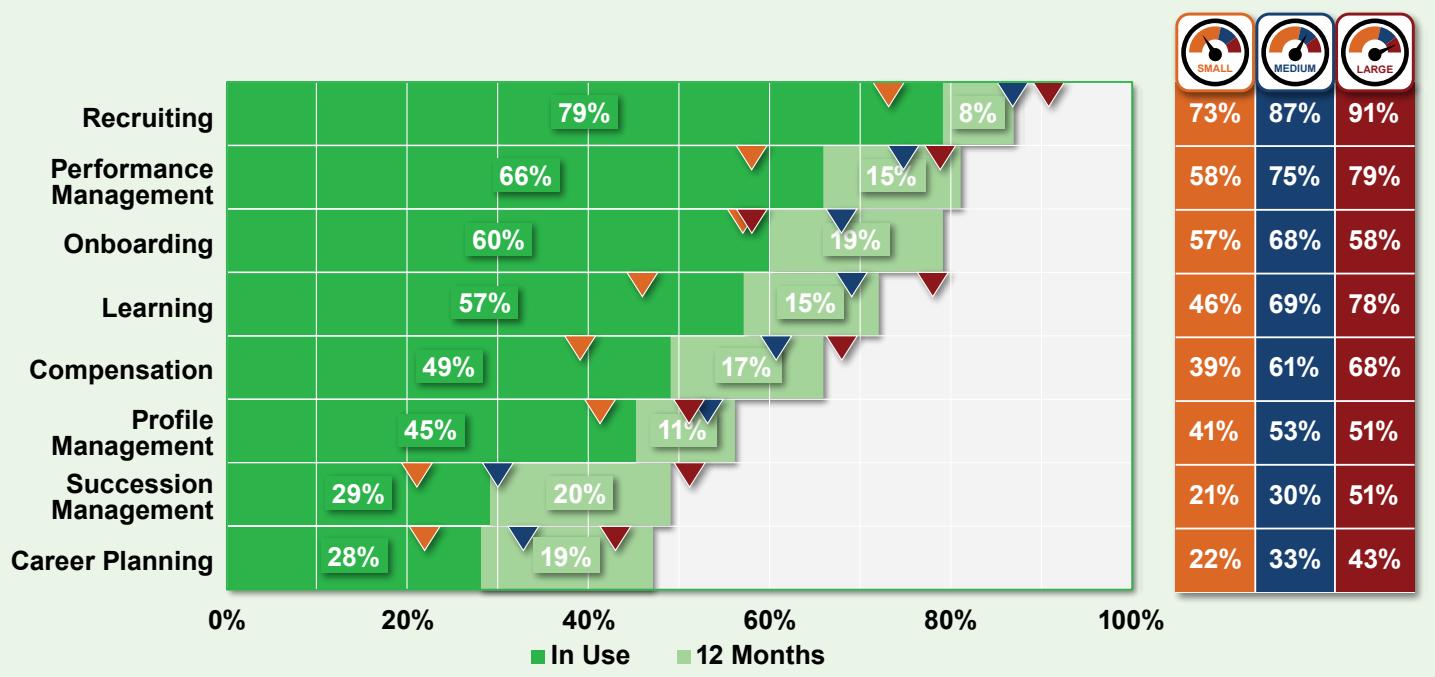
Similar to WFM applications, TM applications can be purchased as part of ERP suites, HR suites, TM suites, or as stand-alone applications. Purchasing decisions are often based on UX requirements or complex talent management processes—another reason for recent increases in stand-alone TM applications.

Figure 72: Replacement Plans for Primary Talent Management Applications
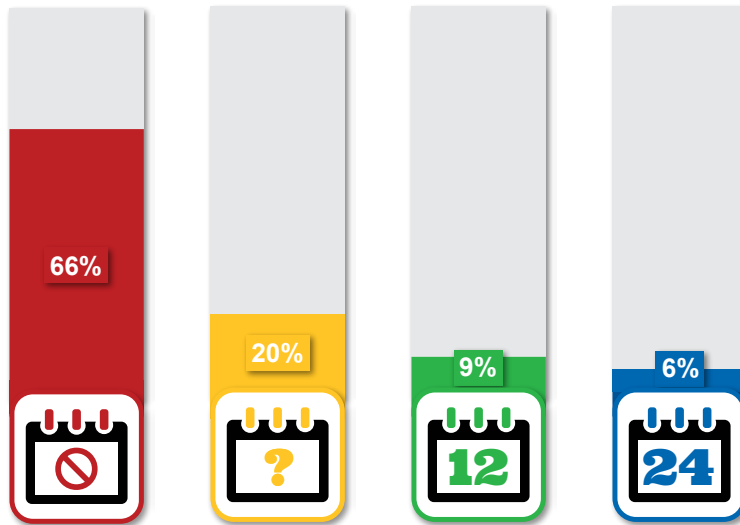
Organizations planning to replace their TM applications in the next 12 months report that, on average, their current systems have been deployed for 5.39 years; those planning to make a change within 24 months have had solutions for an average of 6.26 years. TM applications, on average, have been deployed for a shorter amount of time than Administrative applications for Large and Medium organizations, but longer for Small organizations.

Figure 73: Talent Management Applications – Average Deployment in Years
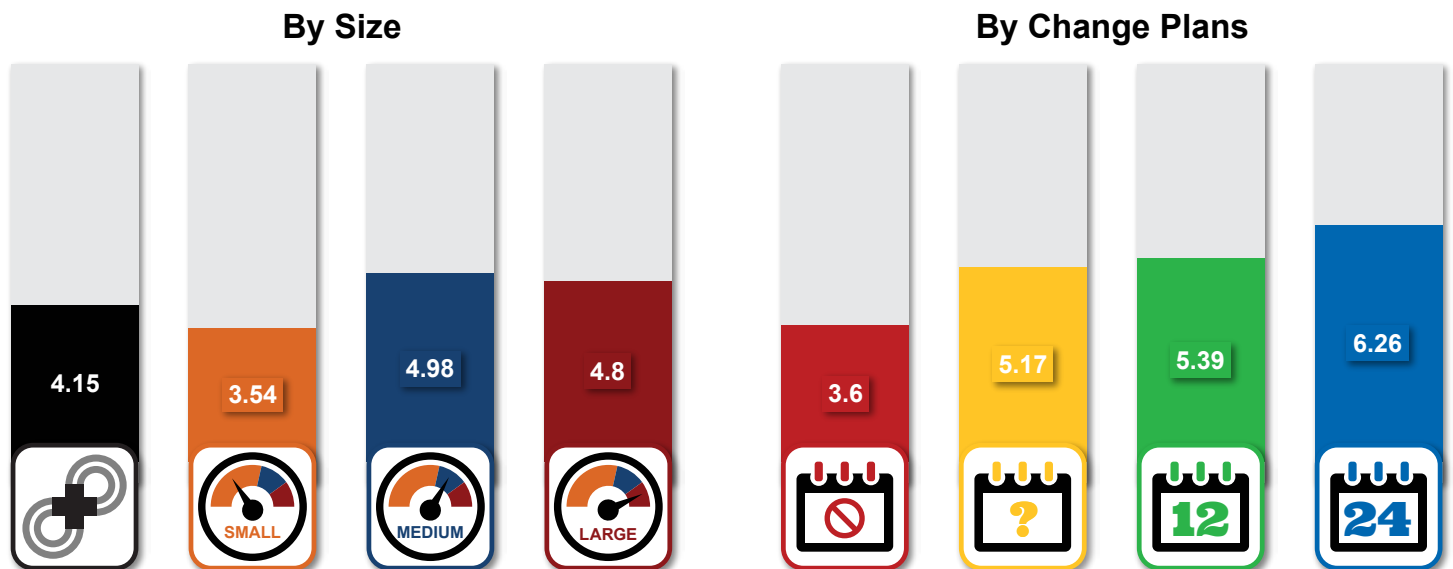
The top factor influencing TM selection was User Experience at 61%; Cost and HRMS integration capabilities follow in priority at 56% and 55% respectively for application selections.

Figure 74: Primary Factors in Selecting Talent Management Applications

Factor	Percentage
User Experience	61%
Cost	56%
HRMS Integration	55%
Specific Functionality	49%
TM Suite	36%
HRMS Module	28%
Industry Tailored	15%
Vendor Services	9%
Operations/Sales Integration	5%
Other	1%
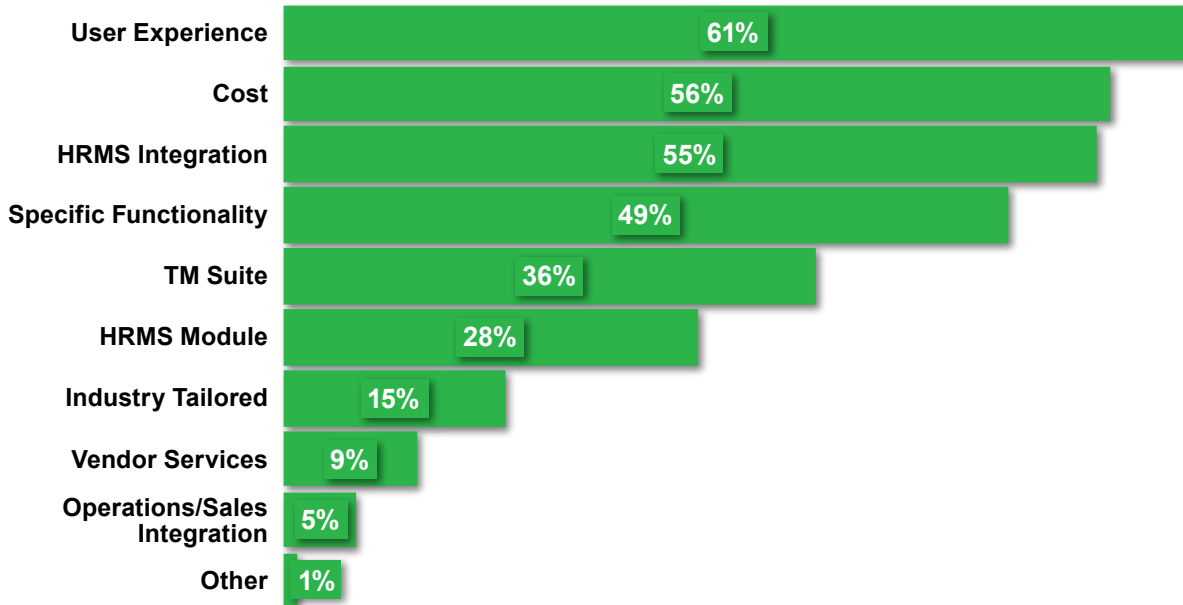
When looking at selection criteria by size, Small organizations are much more sensitive to cost, while Medium and Large organizations focus their selection decisions on UX and HRMS integration. We found few regional differences in purchasing priorities; however, there were significant differences in selection criteria by industry. Financial and Transportation industries are influenced most by UX, while Education selects based on specific functionality requirements and Public Administration focuses on Cost and HRMS integration.

Figure 75: Primary Factors in Selecting Talent Management Applications

	User Experience	Cost	HRMS Integration	Functionality	TM Suite	HRMS Module	Industry Tailored	Vendor Services	Operations Integration
Financial	75%	49%	55%	51%	44%	23%	7%	9%	7%
TCPU	71%	52%	56%	44%	44%	30%	8%	10%	2%
Manufacturing	61%	64%	55%	48%	39%	26%	8%	10%	2%
Retail	60%	52%	53%	56%	26%	21%	20%	13%	6%
Non-Profit	60%	70%	51%	49%	26%	29%	18%	11%	7%
Services	60%	53%	38%	52%	42%	30%	15%	8%	15%
Healthcare	58%	50%	66%	42%	35%	27%	21%	5%	3%
High Tech	57%	59%	59%	48%	31%	40%	12%	7%	3%
AMC	57%	52%	53%	47%	42%	25%	22%	13%	5%
Education	48%	48%	45%	52%	25%	28%	23%	8%	8%
Public Admin	44%	64%	69%	54%	33%	31%	21%	8%	3%
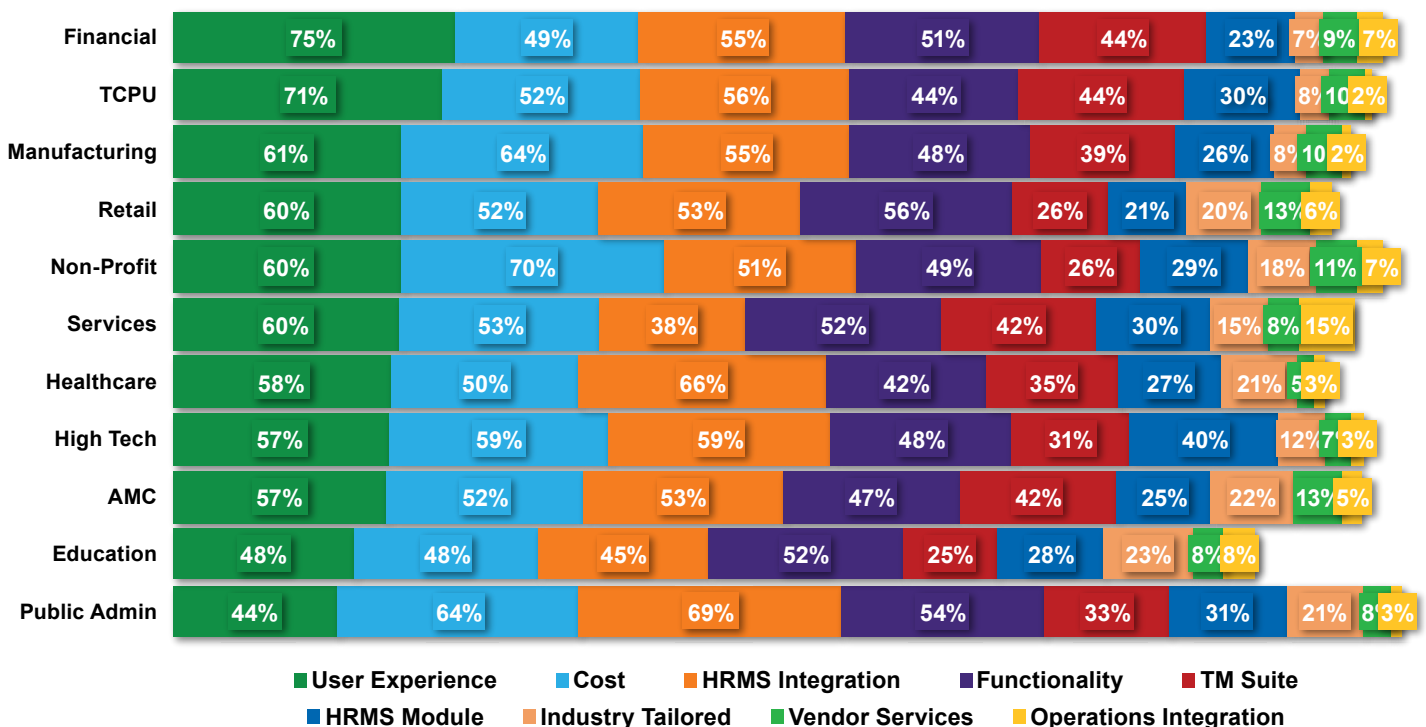
Organizations must often make difficult decisions between applications that meet either their functional- or industry-specific needs and those that are integrated or part of their existing application set. After asking organizations about their primary TM vendor, we then asked what other applications were purchased from the same vendor; the most common response was Recruiting/Talent Acquisition, followed by Onboarding, Performance Management, and Learning and Development. This data continues to highlight the decline of the traditional Talent Management suite, as primary talent applications are purchased with fewer overall modules.

Figure 76: Talent Management Applications Purchased with Primary TM Application

Application	Percentage
Recruiting/Talent Acquisition	67%
Onboarding	48%
Performance Management	42%
Learning & Development	42%
Profile Management	38%
Compensation	17%
Career Planning	17%
Succession Planning	15%
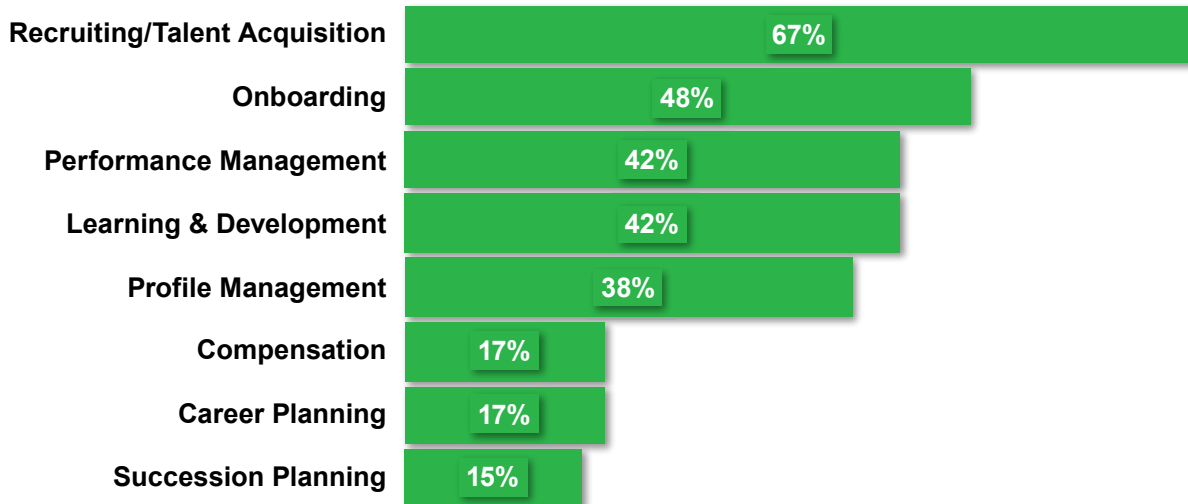
Talent Management applications were the original Cloud-based HR applications, built with full consumerization in mind. In these applications, consumer-like UX and data analytics were leveraged to engage both employees and managers. Lack of focus on the actual work and operational Culture can be a challenge for many TM applications, although the next generation is working to address these issues. Additional emerging trends in the TM application space include the following:

- Contingent Learning and Performance Management
- Engagement Platforms
- Learning Experience Platforms
- Activity and Automatic Performance Tracking
- Integration with Work/Productivity Tools
- Voice Automation
- Team Management
- Workforce Mobility
- Transparency and Feedback
- Artificial Intelligence/Machine Learning

Primary Talent Management Vendor and Solution Outlooks

For each application area we cover, we provide an outlook on the current state of vendor solution adoption by our Survey respondents and their adoption plans for the next 12 months. Please note this should not be considered Market Size data. We have chosen to break each application area into Small, Medium, and Large adoption trends, as adoption varies based on organization size.

We also ask organizations to identify their primary TM suites and the solutions they are using for individual application requirements, which provides us with a broad look across the entire TM landscape. The primary TM vendors that provide solutions with various applications are less likely to offer a standard set in a single solution; instead, we see greater focus on vendors identifying their strengths and tailoring solutions in those directions. Many vendors focus on Recruiting, Performance, or Learning as central modules – then add supporting modules to their solution over time. TM vendors offer a wide range of features and functions, leading many organizations to purchase multiple solutions to meet their needs.

Figure 77: Talent Management Application Adoption by Size
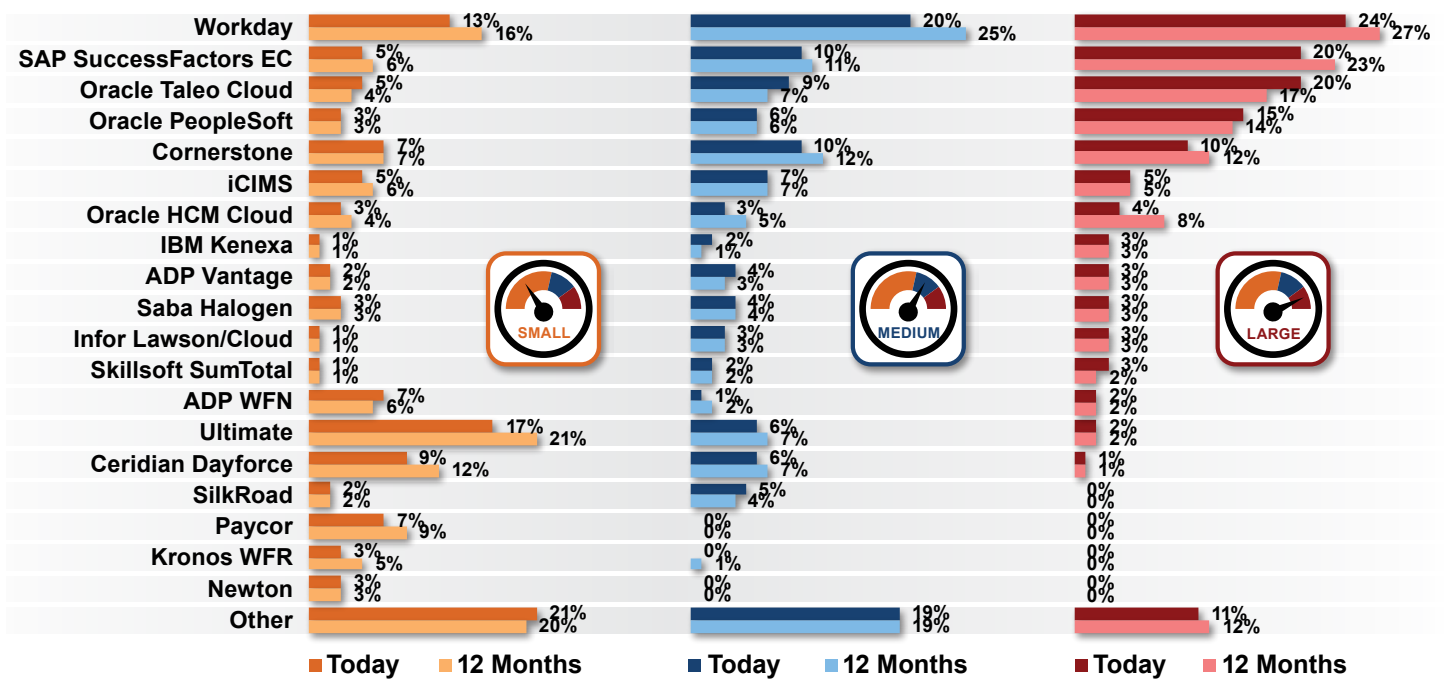
Organizations with the largest overall adoption numbers for primary TM applications are ERP vendors offering these applications as part of their wider ERP solutions. Notable increases in adoption from last year's adoption numbers include Workday, Ultimate, and Ceridian Dayforce.

The Other category (vendors that didn't reach 3% or more in our data set) stayed relative stable for Small and Large organizations but increased by 40% in the Medium-sized organizations to 19%. This highlights the large number of TM start-ups increasing both their scale and capabilities for the mid-market space. The most-often mentioned solutions in the Other category include the following:

- BambooHR
- Healthcare Source
- NeoGov
- Oracle EBS
- PageUp
- Paycom
- Paylocity
- PeopleAdmin
- PeopleFluent
- SAP HCM
- TalentReef
- TalentSoft

Individual Talent Management Solutions and Vendor Outlooks

Recruiting/Talent Acquisition Applications

Recruiting, or Talent Acquisition, has seen dramatic changes over the last five years with an increased focus on Social recruiting, branding, relationship management, and Artificial Intelligence. Recruiting has the highest adoption percentage for TM applications as **79% of organizations** already have a Recruiting application in use, and 67% of those organizations have purchased that application from their primary TM provider. Vendors who service this application area are often at the forefront of technology innovation, constantly addressing rapidly shifting requirements based on workforce supply and demand. For 2018, unemployment numbers are declining globally and critical skills in technology, healthcare, and data management are in high demand.

The need for constant innovation has led to an abundance of vendors entering this application category—particularly for niche applications focused on managing the candidate relationship and experience. Traditional Recruiting applications, those with the largest share of adoption, are usually full-blown applicant tracking systems that offer some innovative features, but rarely all of them.

Figure 78: Recruiting Application Adoption by Size
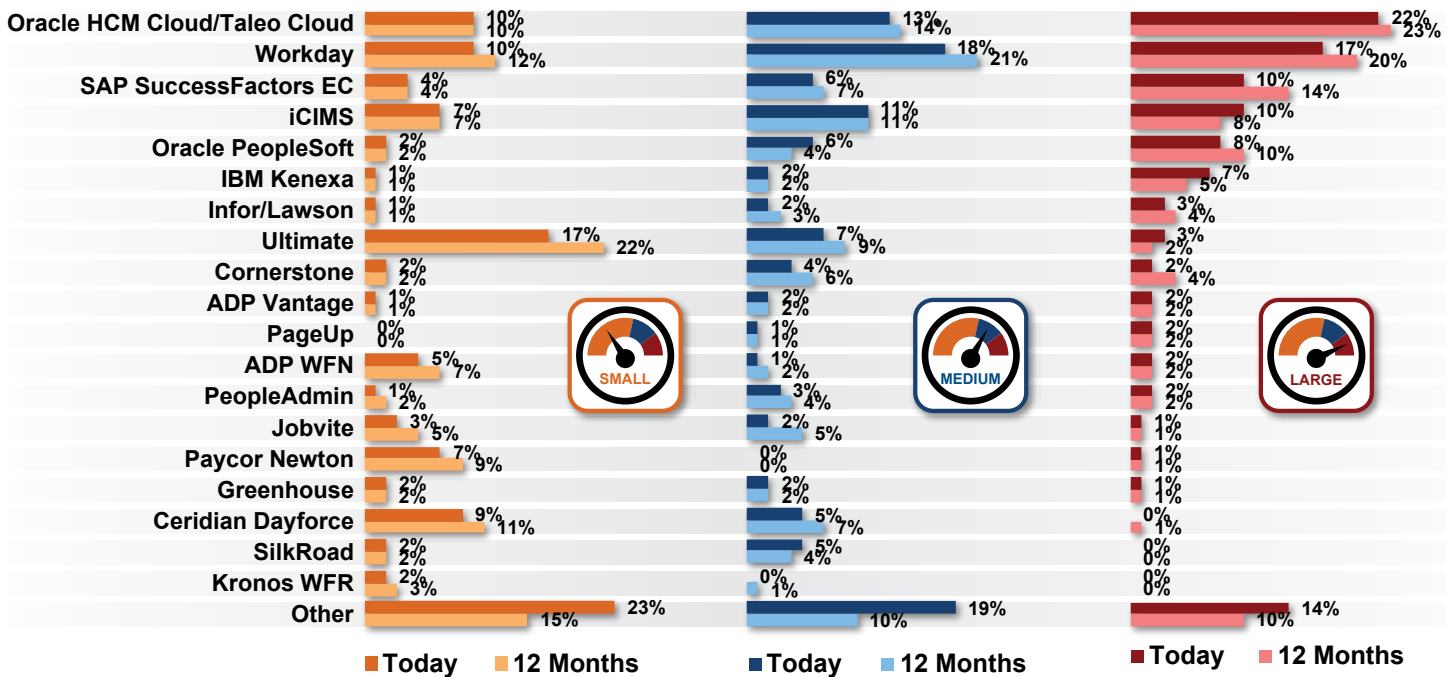
The Recruiting vendors with the largest overall market share are once again part of ERP solutions, the one standout in the top five is iCIMS, a Recruiting application also providing Onboarding. Notable increases in adoption from last year's adoption numbers include Workday, Ultimate, Jobvite, and Ceridian Dayforce.

The Other category for Recruiting vendors holds steady from last year and continues to include vendors for almost a quarter of Small organizations. This group includes many recruiting focused start-ups and several organizations that have dropped overall adoption and are quickly falling out of favor in an industry where buyers replace applications quickly.

The most often mentioned solutions within the Other category are as follows:

- BambooHR
- Bullhorn
- Career Builder
- Healthcare Source
- JazzHR
- Lever
- Lumesse Stepstone
- NeoGov
- Paycom
- PeopleFluent
- SmartRecruiters
- Taleo Onpremise
- Workable

Survey respondents shared that 35% are either evaluating their options or already planning to replace their current primary Recruiting applications, and industries with higher-than-average percentage of plans for Recruiting replacement include Utilities/Transportation, Education, and Business Services.

Figure 79: Replacement Plans for Recruiting Applications
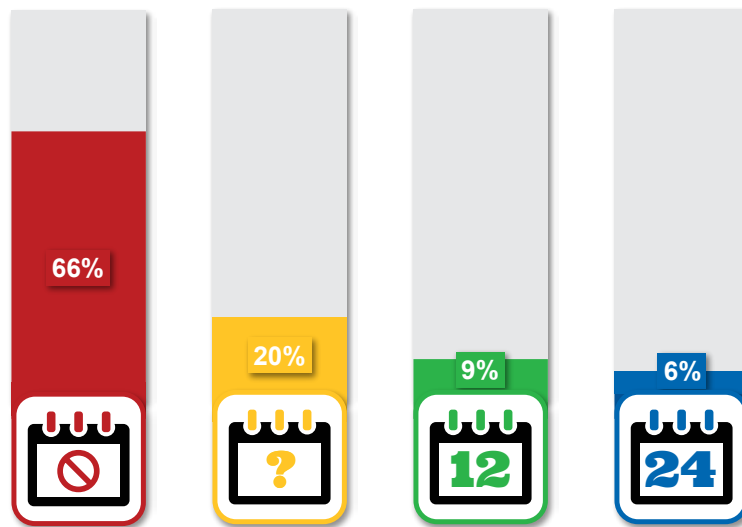
Features most frequently desired in new Talent Acquisition applications include the following:

- CRM
- Mobile
- Improved UX, Candidate and Recruiter
- Compliance Tools
- Onboarding
- Integration with HRIS/HRMS
- Productivity Tracking
- Reporting
- Talent Pool/Pipeline Mgmt
- Better Recruiter Experience
- Global Capabilities, Language, Localization Options
- Bulk, All-in-One Features
- Fewer Clicks to Apply

The Evolving Talent Acquisition Ecosystem

Much of the growth and innovation in the Talent Acquisition space often takes place outside of the Recruiting application. These innovative solutions support existing tools by providing better decision-making data or increasing candidate engagement and may also include video interviewing, big data analysis tools, and assessment technologies. Over the last few years, we've seen a deluge of new Talent Acquisition applications often backed by large amounts of venture capital funding.

The average tenure of a worker in the 25–34 age group is only three years[1], requiring organizations to maintain an ever-flowing pipeline of qualified candidates to fill open positions. In today's consumer-driven workforce, managing the end-user's experience and understanding the unique qualities of a workforce beyond our current corporate walls is central to a Talent Acquisition strategy.

We asked organizations about their adoption of emerging Talent Acquisition technologies and whether or not these technologies were adopted as part of existing applications; Employee Referral Management, Candidate/Talent Pool Management, and Employer Branding were the most likely to be procured with existing tools.

Figure 80: Exploring New Talent Acquisition Tools

Tool	Today	12 Months	Evaluating	No Plans
Employee Referral Management	55%	6%	14%	26%
Candidate/Talent Pool Management	46%	11%	20%	23%
Employer Branding	44%	9%	20%	27%
Social Searching/Matching	35%	7%	22%	36%
Behavior Assessments	32%	5%	19%	44%
Marketing Campaign Management	30%	7%	21%	42%
Video Screening/Interviews	27%	5%	19%	48%
Scenario/Game-Based Recruiting	4%	4%	16%	76%

---

1   http://www.bls.gov/news.release/tenure.nr0.htm

The adoption of emerging Talent Acquisition tools has slightly decreased this year in all areas. This decrease in adoption may be due to a data set that includes more Global and slightly more SMB organizations, however, since the evaluation numbers haven't also increased, this could also suggest a shift away from candidate-focused applications as just 36% of organizations measure or track Candidate Experience.

Figure 81: Organizations that Measure Candidate Experience
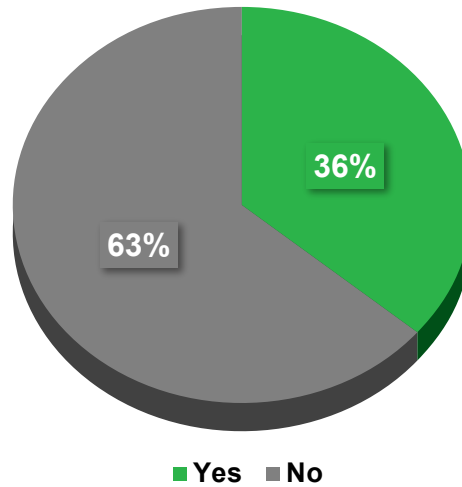
When we look at the Candidate Experience (CX) data by size we see that Large organizations are 60% more likely to measure CX than Small and Medium organizations. We also found that the emerging Talent Acquisition application with the widest gap between use in Small and Large organization is the Marketing Campaign Management application. If you are a Small organization competing with Large organizations for critical talent, one area of investment to consider should be CX.

Figure 82: Candidate Experience Focus by Size

Measuring or Tracking Candidate Experience
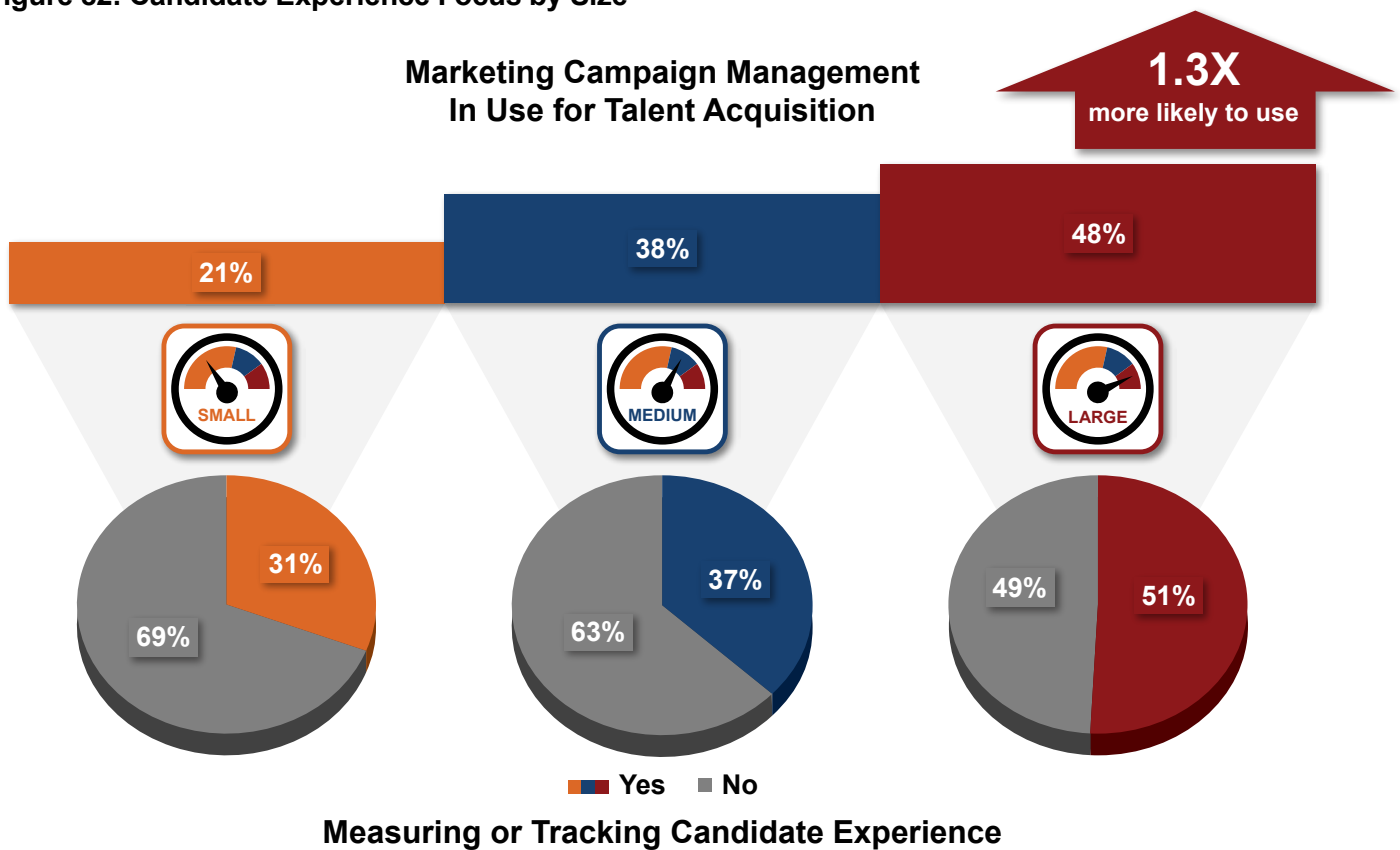
Performance Management Applications

Performance Management (PM) continues to add new practices and new technologies. Large global companies including Adobe, Dell, Accenture, and Deloitte have abandoned traditional PM models and replaced annual ratings and merit increases with continuous feedback and immediate rewards. Traditional applications have aggressively focused on rolling out updated or brand-new modules, aligning with new PM. Emerging platforms to this space are focusing on engagement, rewards, and survey technology to challenge long-term players. Early adopters of a continuous PM model are seeing the greatest overall adoption gains. PM has the second-highest adoption level of TM applications at 66%, 42% purchased from the primary TM vendor. PM can be central to an organization's decision-making process around primary TM solutions and often serves as a key battleground for organizations hoping to attract clients who will eventually purchase future TM modules.

Figure 83: Performance Management Application Adoption by Size
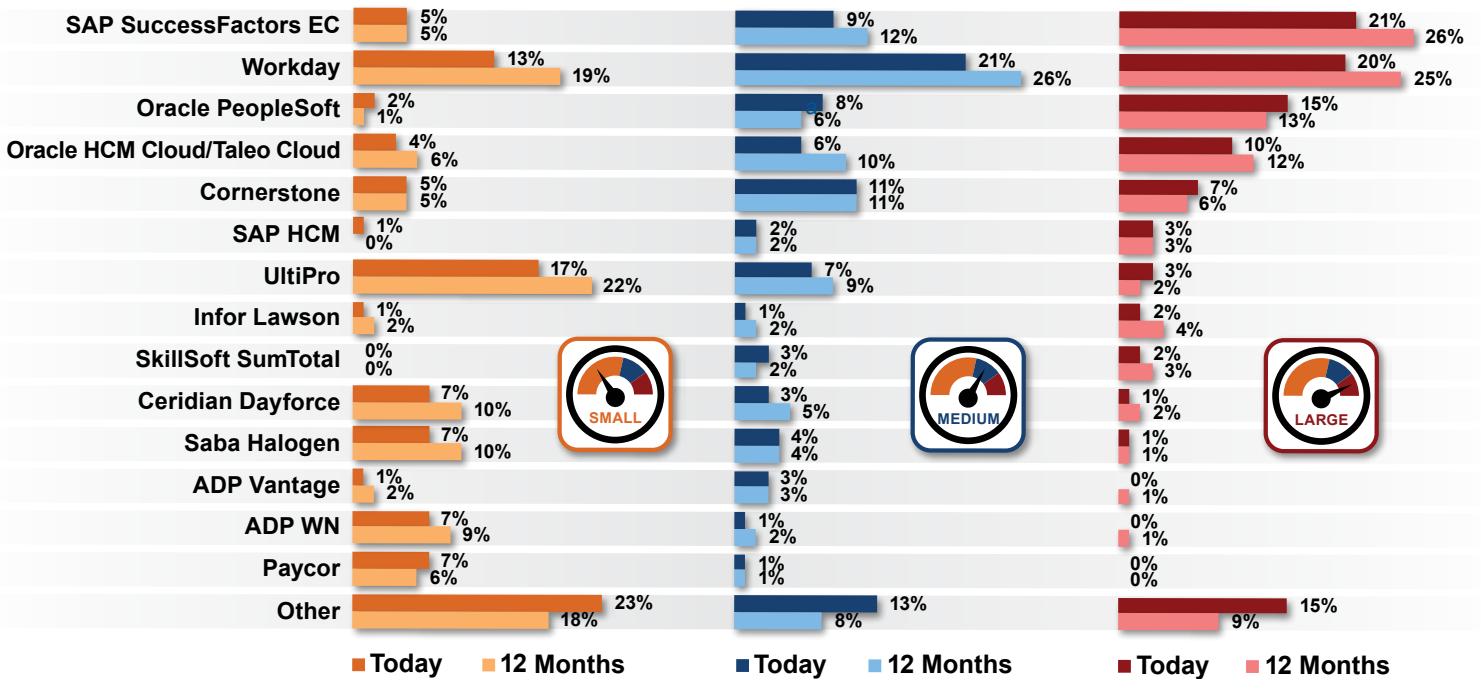
The PM vendors with the largest overall market share are now part of an ERP solution, the one standout in the top five is Cornerstone. Notable increases include Ultimate, Ceridian Dayforce, and Saba Halogen while SuccessFactors continues to hold the highest adoption level; Large and Medium organizations expect higher adoption over the next 12 months. Workday, Oracle HCM Cloud, and Cornerstone should see higher overall adoption this year. UltiPro, Ceridian, Halogen, and Paycor should see slight growth from Medium and Small organizations.

The Other category (vendors that didn't reach 3% of our data set) for PM vendors decreased slightly from last year and continues to include vendors for almost 25% of Small organizations. A large percentage of responses indicated an in-house or custom-built PM application, a trend unique to this area, indicating that PM vendors can improve their offerings. The most often mentioned solutions in the Other category include:

- In House/Custom Tool
- PageUp
- PayCom
- Paylocity
- PeopleAdmin
- PeopleFluent
- PeopleStrategy
- PerformancePro
- Saba
- Umantis

Onboarding Applications

Onboarding applications are the TM application area with the third-highest adoption levels; 60% of organizations report having an Onboarding application in use today, 48% of which are provided by their primary TM vendor. Onboarding solutions are a complex mixture of features, ranging from document management tools to coaching and behavior assessment solutions. Organizations focus on both compliance and creating an engaging employee experience as a part of the Onboarding process. In many cases, organizations use multiple vendors to handle Onboarding employees, particularly for compliance needs. We see vendors enter this space from less traditional areas such as case management tools, analytics, and communication tools.

Figure 84: Onboarding Applications Adoption by Size
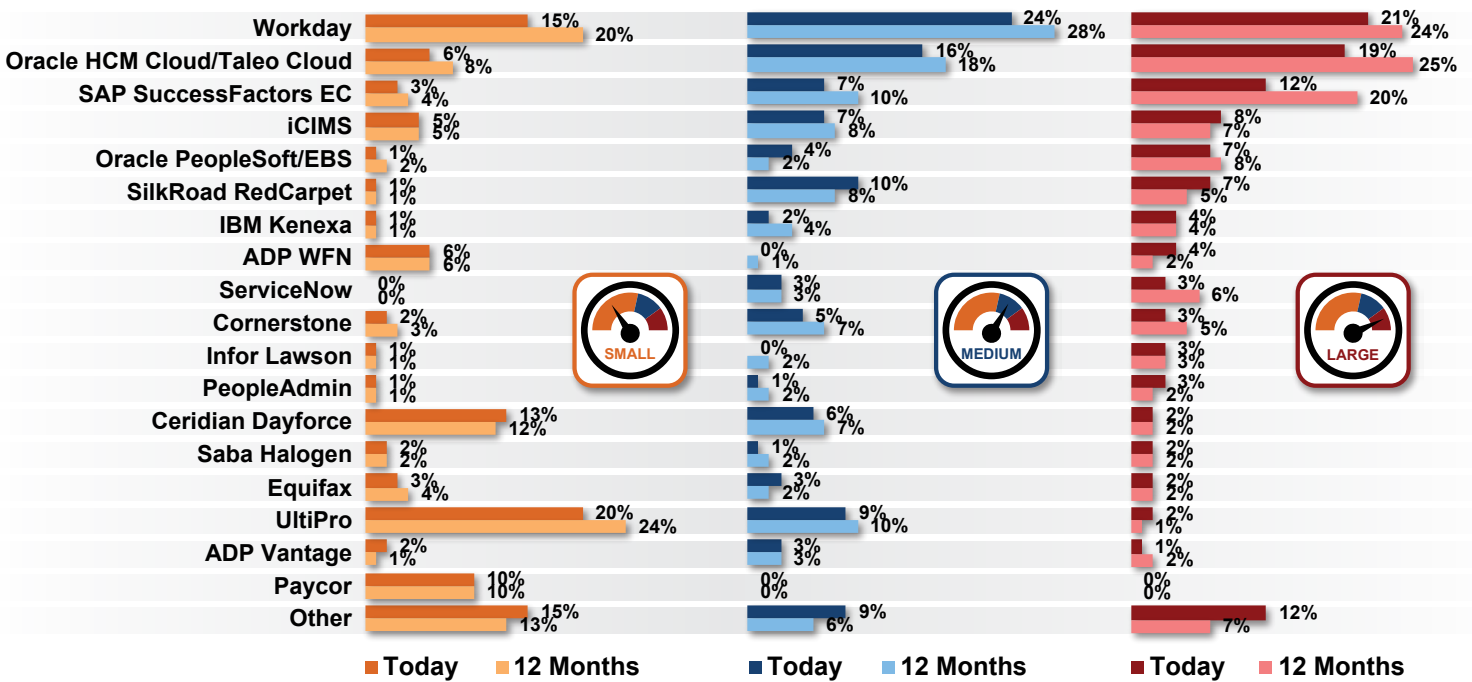
The Onboarding vendors with the largest overall market share are often part of an ERP solution, the one non-ERP solution in the top five is iCIMS' Talent Acquisition application. Notable increases in adoption from last year's adoption numbers include Oracle HCM Cloud/Taleo, Workday, Cornerstone, Ceridian Dayforce, and Ultimate. We also saw several new entrants to the list this year, including ServiceNow, PeopleAdmin, and Equifax—all organizations that have been investing in their Onboarding applications.

The Other category for Onboarding (vendors that didn't reach 3% or more in our data set) dropped considerably from last year in the SMB space from 29% of the responses to just 15%. The most often mentioned solutions in the Other category are as follows:

- BambooHR
- CivicHR
- Compliance Wire
- ExactHire
- Greenhouse
- Kronos Workforce Central
- Kronos Workforce Ready
- NeoGov
- Newton
- PageUp
- Paycom
- PeopleDoc
- TalentReef
- Tenstreet
- WorkBright

Learning Applications

Learning and Development applications have evolved into two very different personas: we see either compliance-focused applications or micro-learning/experience applications. Some Learning applications address both needs, while others choose to focus on specific areas. Traditional Learning Management Systems (LMS) are specifically designed to address administration for complex required Learning, while newer Learning applications focus on tackling the age-old issue of performance and need-based Learning. To address these multiple Learning needs, we are seeing organizations shift from a single LMS to a Learning environment made up of multiple Learning applications—including modules within existing HR applications and stand-alone niche players.

Figure 85: Learning Applications Adoption by Size
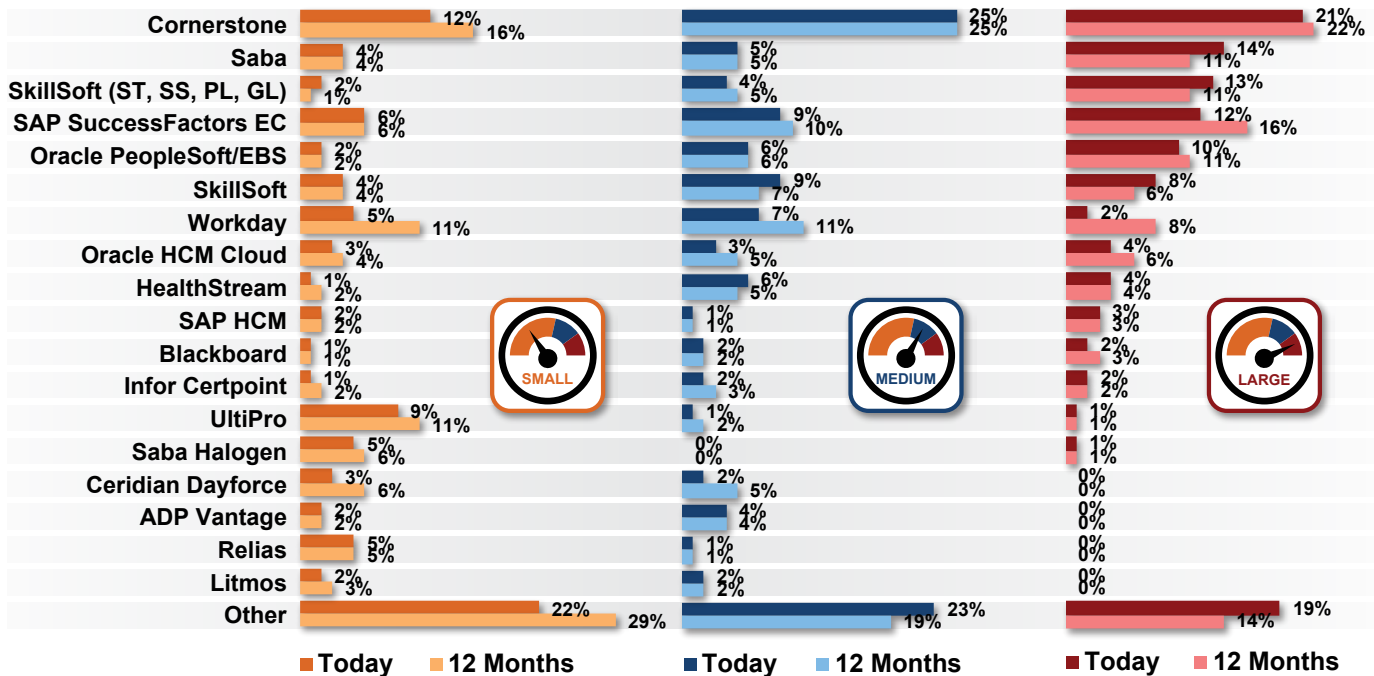
Learning applications are the TM application area with the fourth-highest adoption at **57%,** 42% of which were purchased from their primary TM vendor. The Learning vendors with the largest overall market share are still part of traditional TM suites, and for the first time in several years there is a considerable increase in adoption for these vendors such as Cornerstone. We also see increased adoption rates in ERP-based Learning solutions, including SAP (SuccessFactors EC), Workday, Oracle HCM Cloud, Ultimate, and Ceridian Dayforce.

The Other category for Learning (vendors that didn't reach 3% or more in our data set) saw an increase for Large and a decrease for Medium and Small organizations. Enterprise software vendors continue to invest here, and in addition to these market shifts, niche providers (such as Degreed) are emerging from the consumer Learning space and are working to centralize ownership of an employee's Learning record. The most often mentioned solutions in the Other category are as follows:

- AbsorbLMS
- Alchemy
- Branier/TTNLearning
- Bridge/Canvas
- Cengage
- ComplianceWire
- Meridian
- NetDimensions
- SilkRoad
- ThinkHR
- TorchLMS
- Totara
- Wisetail

For Learning applications, 36% of organizations are either evaluating their options or already planning to replace their primary Learning application; Medium organizations are the most likely to plan for a change at 45%. Several Industries also have a higher-than-average percentage of plans for replacement including Utilities/Transportation (51%), High-Tech (45%), and Agriculture/Construction (42%). Unique to the Learning space are organizations making plans to simply remove their LMS without replacing it in the near future—which has led to some fluctuation in the overall adoption numbers of Learning applications.

Figure 86: Replacement Plans for Learning Applications
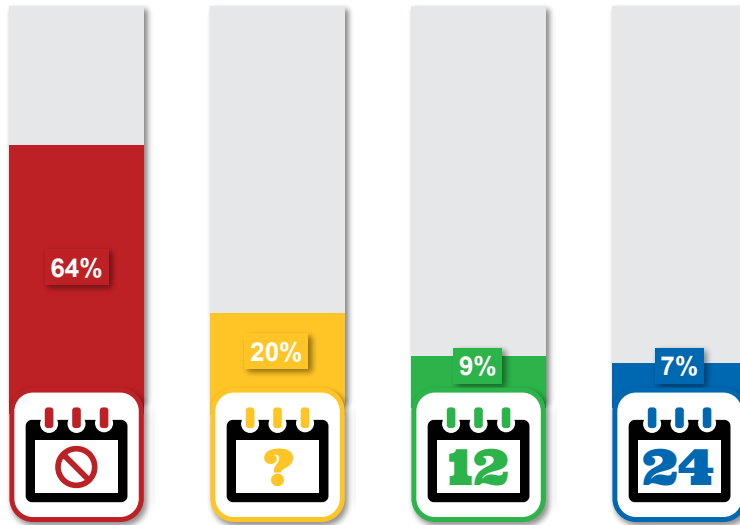
Learning applications, on average, have been deployed for a much longer time than other TM category applications. Even Small organizations are likely to have an existing Learning application that's been deployed for almost five years. Continuing the trend in other adoption areas such as Payroll, HRMS, and WFM, we see that for Learning applications the deployment time has a direct impact on replacement plans. Organizations planning to replace their Learning application in the next 12 months report that, on average, their current systems have been deployed for 5.75 years; those planning to make a change within 24 months have had solutions for an average of 6.75 years.

Figure 87: Learning Application – Average Deployment in Years
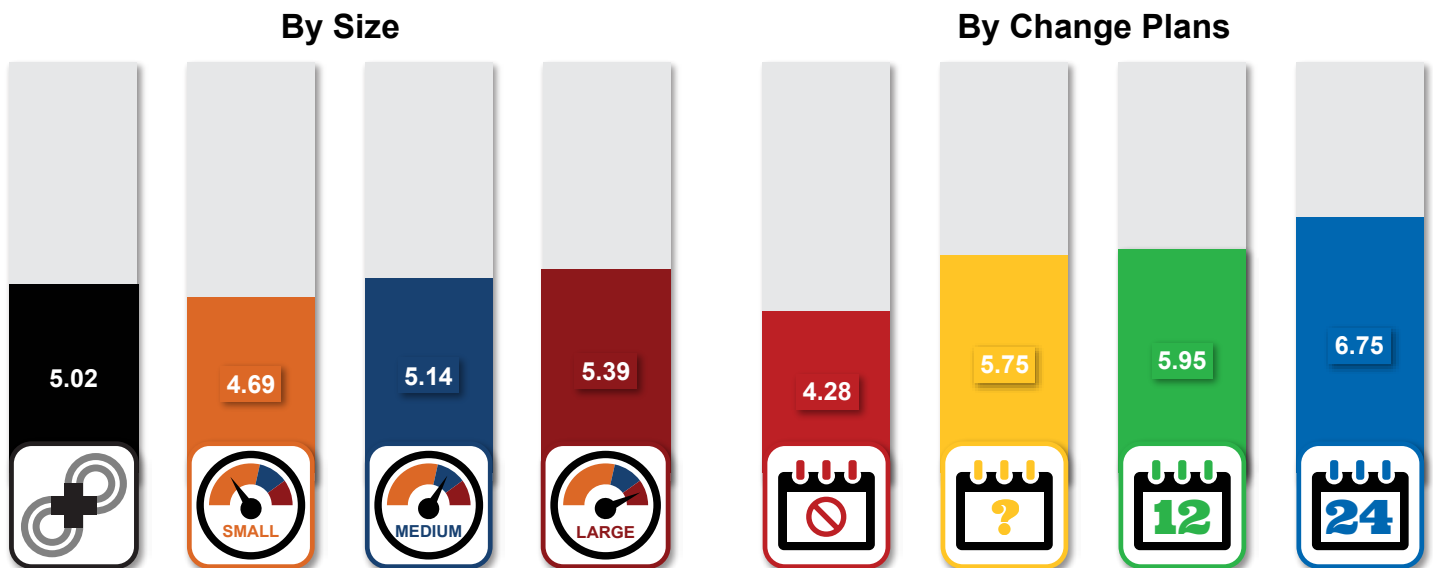
Compensation Applications

Compensation applications are generally adopted by larger, more complex organizations and are often tightly connected to services associated with Compensation benchmarking. Organizations that don't use a compensation tool must still analyze and manage compensation strategies but tend to work in Microsoft Excel or a business-specific analytics package and miss out on the accuracy and benchmarking data available from these systems. These complex solutions play a major role in an organization's ability to forecast business needs and develop strategic plans. Compensation has some of the lowest adoption levels for TM applications, with **49% of organizations** stating they have Compensation application in use, 17% of which are purchased from the primary TM vendor. This application area offers opportunities for both niche and enterprise vendors.

Figure 88: Compensation Applications Adoption by Size
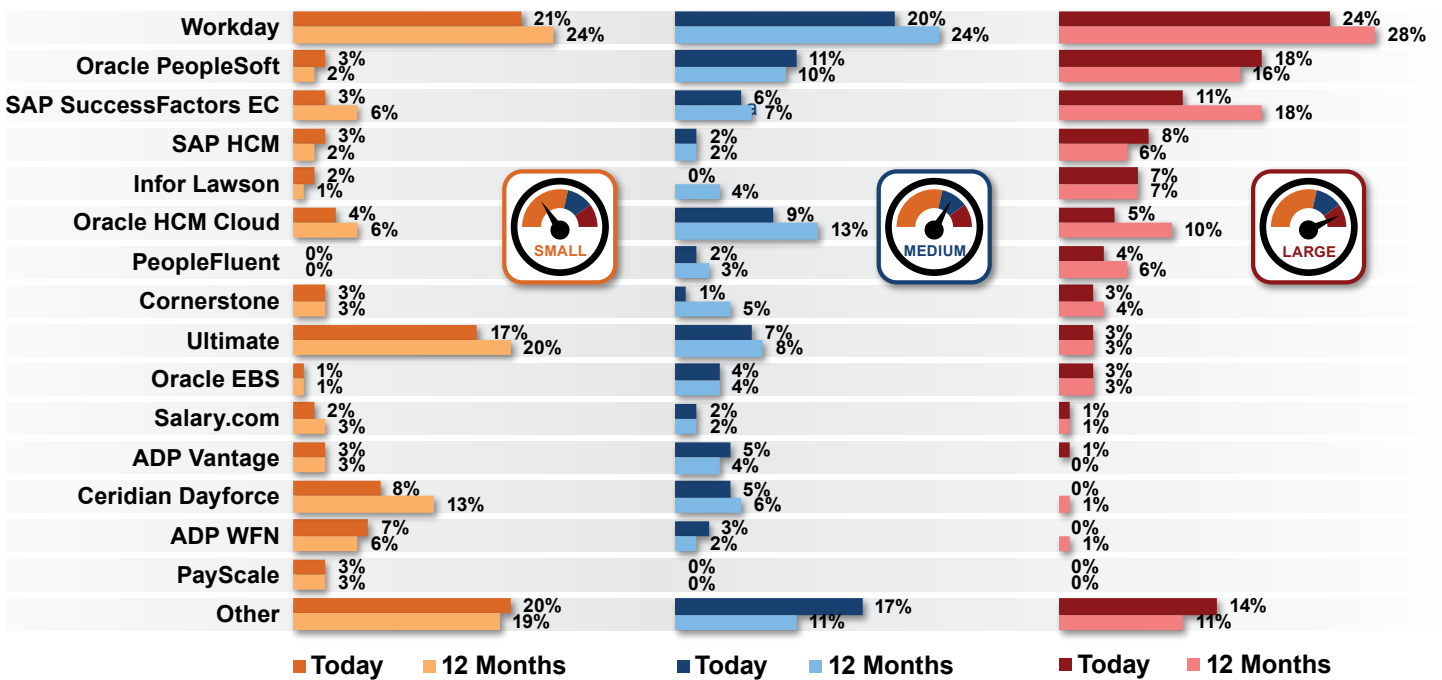
The Compensation applications with the largest overall market share are generally part of an ERP solution, but we are seeing more TM suites enter this space from vendors such as PeopleFluent and Cornerstone that include strong Compensation applications. Notable increases in adoption include Workday, SAP SuccessFactors EC, Ceridian Dayforce, and ADP.

The Other category for Compensation (vendors that didn't reach 3% or more in our data set) dropped slightly from last year, pointing towards a lack of competition in this area. The most frequently mentioned solutions in the Other category are as follows:

- BalancedComp
- Curo
- HRsoft
- In House/Excel/Custom Tool
- MarketPay
- Paycor
- Payfactors
- SkillSoft SumTotal
- Willis Towers Watson

Succession Management Applications

The highest adoption levels for Succession Management applications are for Large organizations—with 70% more implementing Succession Management applications than Small organizations. Succession Planning should be a key component of any TM Strategy to help organizations identify leaders and implement development plans. Succession Management applications are the TM application area with the lowest adoption levels; **29% of organizations** share that they have a Succession Management application in use, 15% of these are purchased from their Primary Talent Management vendor.

Figure 89: Succession Management Application Adoption by Size

	SMALL Today	SMALL 12 Months	MEDIUM Today	MEDIUM 12 Months	LARGE Today	LARGE 12 Months
SAP SuccessFactors EC	6%	8%	20%	19%	25%	27%
Workday	17%	21%	21%	29%	22%	28%
Oracle PeopleSoft/EBS	4%	3%	6%	7%	11%	8%
Cornerstone	8%	8%	10%	11%	10%	11%
Oracle HCM Cloud/Taleo	5%	8%	8%	16%	8%	15%
UltiPro	22%	24%	11%	10%	3%	2%
PeopleFluent	1%	3%	0%	1%	3%	2%
Saba Halogen	7%	5%	2%	2%	2%	2%
Skillsoft SumTotal	0%	0%	2%	2%	2%	3%
ADP Vantage	3%	3%	7%	4%	0%	0%
ADP WFN	7%	6%	1%	2%	0%	0%
PageUp	0%	0%	3%	3%	0%	0%
Nakissa	0%	0%	0%	3%	0%	0%
Other	27%	20%	7%	10%	7%	13%
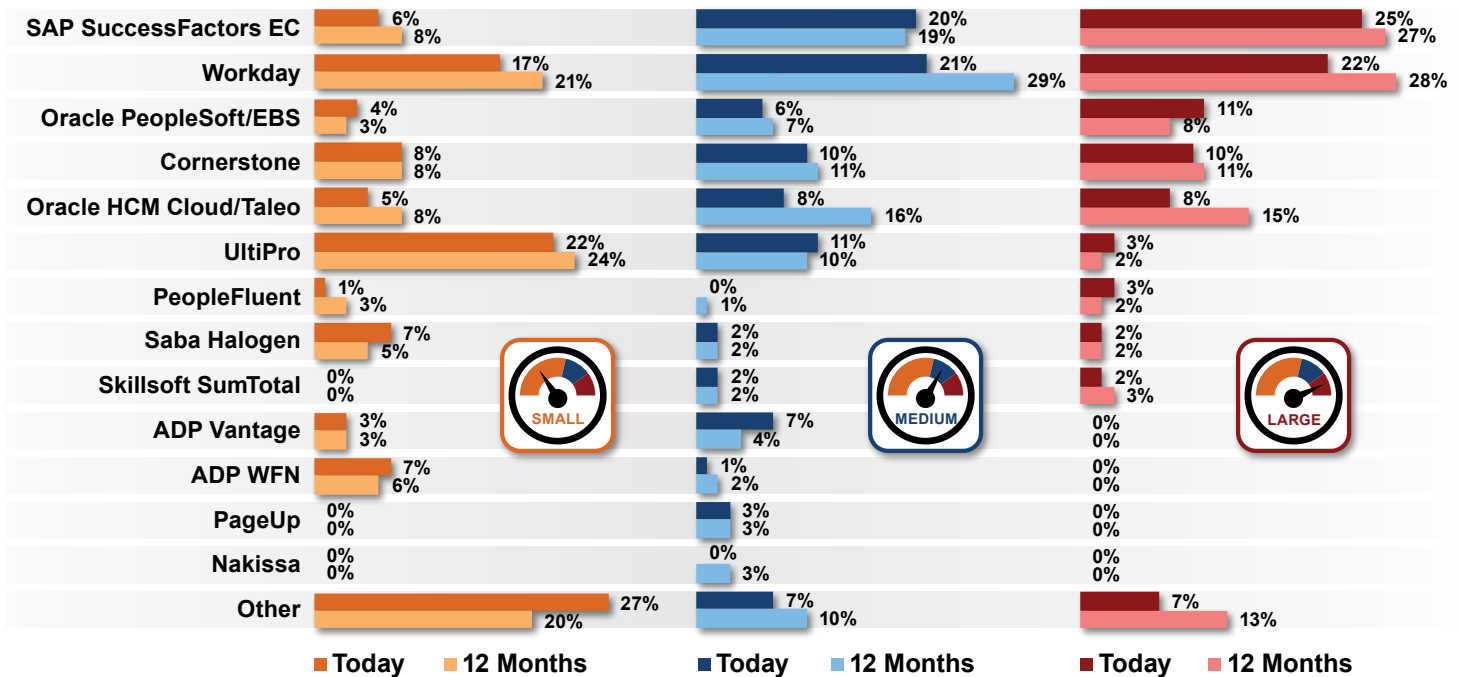
Succession Management vendors with the largest overall market share are a mix of ERP solutions and TM suites. TM Vendors such as Cornerstone, PeopleFluent, and Saba Halogen have made this area a major focus of their applications. Notable increases in adoption from last year's numbers include SAP SuccessFactors EC, Workday, Ultimate, and Saba Halogen.

The Other category for Succession Management (vendors that didn't reach 3% or more in our data set) dropped slightly from last year, pointing towards a lack of competition in this area. Succession Planning, like Performance Management, has a large percentage of organizations who identified their applications as In-House or Home Grown. The most often mentioned solutions in the Other category include the following:

- BirdDogHR
- Ceridian Dayforce
- Dynamics365 for Talent
- Microsoft Excel
- HighGround
- Infor
- In-House/Home Grown
- Paycor

Workforce Intelligence

Workforce Intelligence (WI) provides insights for organizational decisions by managing the processes created to store, govern, analyze, report, and share past, present, and future workforce information. These efforts are not a single project, but require constant care, rework, and management of data and tools to produce an ever-evolving story. Because no single tool set, suite concept, or platform covers the entire function, multiple technologies are used to accomplish WI efforts:

- **Embedded Analytics:** separate modules within an organization's HRMS, WFM, and/or TM platform that can be turned-on or installed but are not sold outside of the application. Capabilities can vary widely by solution but may include reporting, dashboards, analysis capabilities, and predictive analytics.
- **Extraction and Analysis:** tools used to extract specific data from various systems, conduct cleansing, organize, and run separate unique analysis; e.g., Microsoft Excel and statistical applications.
- **Data Management and Manipulation:** tools designed to extract large amounts of data for storage, organization, and mapping that is then made available to individuals to run processes or algorithms; e.g., Data Warehouses, Platforms, Big Data Utilities, and Data Lakes.

> **Data Lake:** A storage repository that holds large amounts of raw data in its native format (structured and unstructured) until it is called for use.

- **Visualization and Sharing:** tools designed to use clean data, defined data, and very large data sets to produce images, charts, communications, and presentations; e.g., Tableau or Microsoft Power BI.
- **HR Business Intelligence Solutions:** tools designed for multiple data sets, specifically outputs for WI queries. They can provide data mapping, data analytics, forecasting, and visualizations to produce insights for HR and Business decisions concerning workforce data. These environments have been optimized for workforce analytics.

Figure 90: Workforce Intelligence Application Adoption by Size

Application	In Use	12 Months	SMALL	MEDIUM	LARGE
Microsoft Excel	98%	1%	97%	97%	99%
Embedded Core HR	64%	12%	61%	66%	67%
Platform BI Solutions	48%	4%	38%	52%	72%
Embedded TM	41%	18%	40%	45%	39%
Embedded WFM	40%	14%	41%	40%	39%
Visualization Tools	37%	6%	29%	38%	56%
Data Warehouse	30%	6%	20%	34%	55%
Statistical Tools	22%	5%	17%	26%	35%
HR BI Solutions	16%	8%	14%	13%	25%
Data Lakes	6%	5%	4%	9%	11%
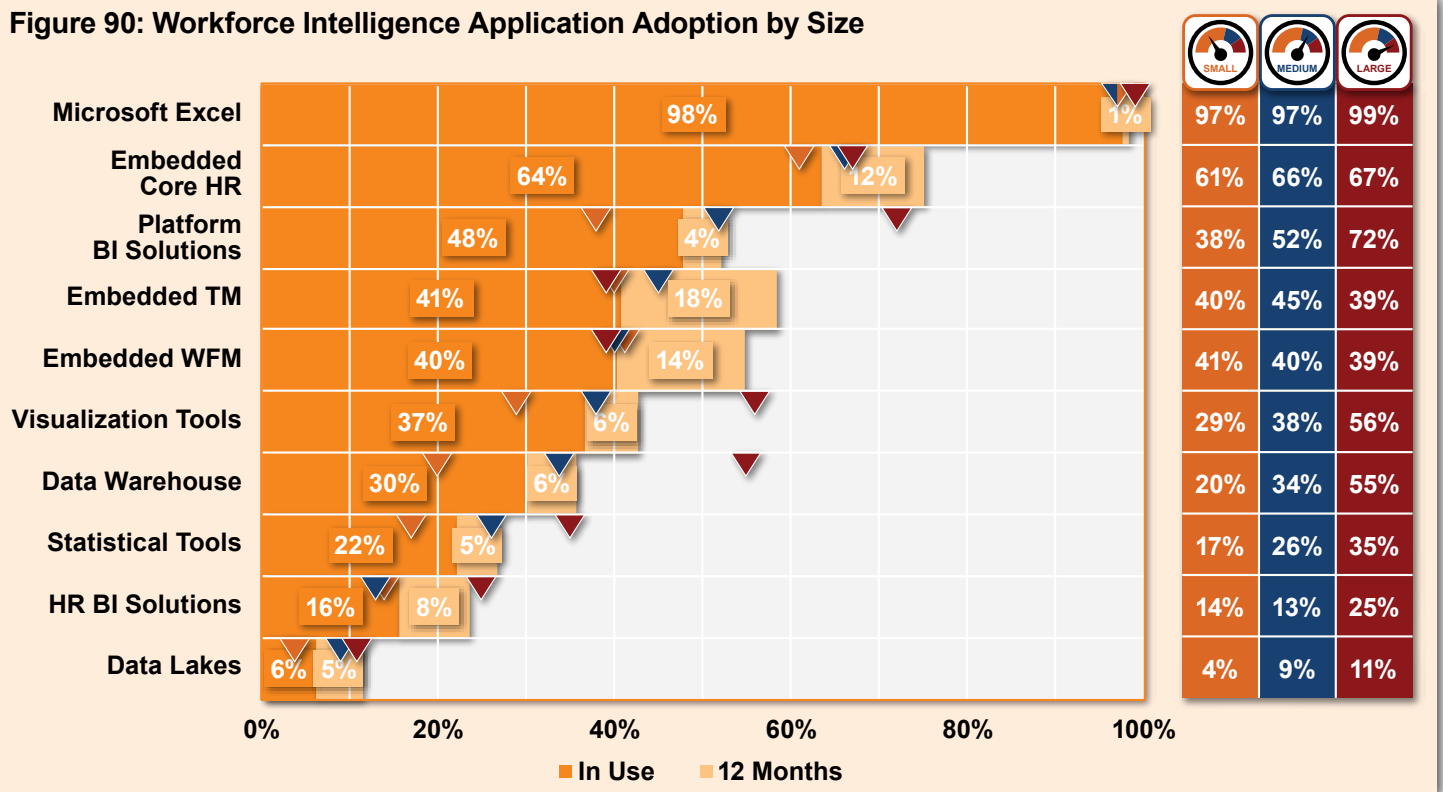
Achieving Outcomes with Workforce Intelligence Efforts

The topic of HR analytics or Workforce Intelligence (WI) was originally seen as the domain of very large organizations, but recent advances in HR applications, Self Service, and analytics tools have made WI accessible to all organizations. Over 50% of organizations have at least one HR Data Analytics role today; 15% plan to add it over the next 12 months. In addition to hiring an HR Data Analytics role and granting access to WI applications, organizations must prepare to use the insights identified. Access to WI is most frequently given to HR staff in 84% of organizations, with the exception of Asia Pacific-based organizations where Executives and Managers are more likely to have access to WI or HR Analytics applications than HR Staff.

Figure 91: Access to Workforce Intelligence Applications by Employee Type
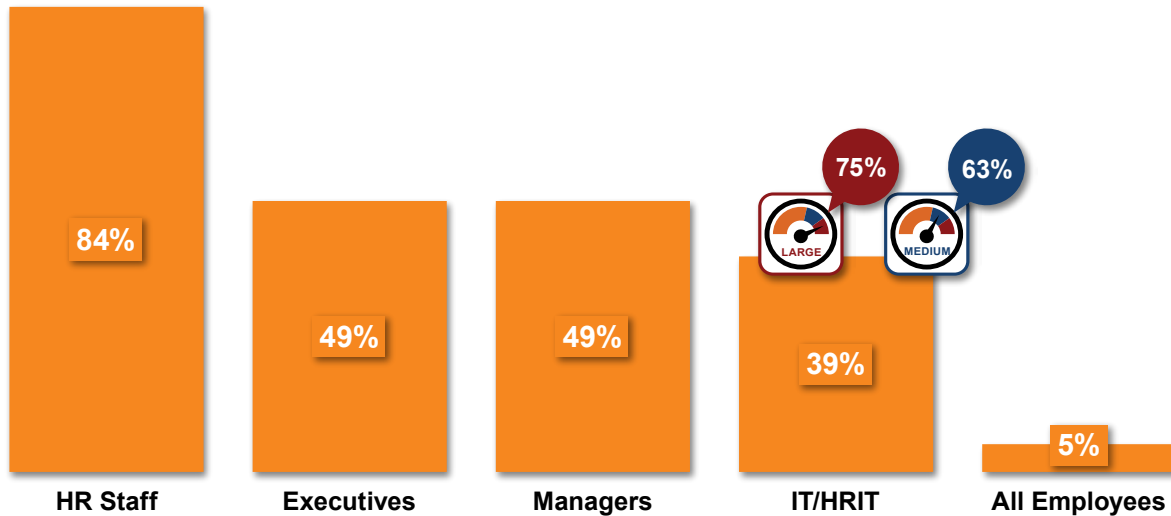
Which Workforce or HR Metrics are shared in reporting? Determining critical organizational metrics is another step in creating an impactful WI function, and Turnover and Demographics were the metrics most often shared, although we did see variations by organizational size. On average, organizations shared between three and four metrics in HR reporting, with Large organizations sharing more. Regarding regional differences, EMEA organizations are almost twice as likely to include Absence and Learning in their HR reporting than organizations in North America or Asia Pacific.

Figure 92: Metrics Included in HR Reporting by Size
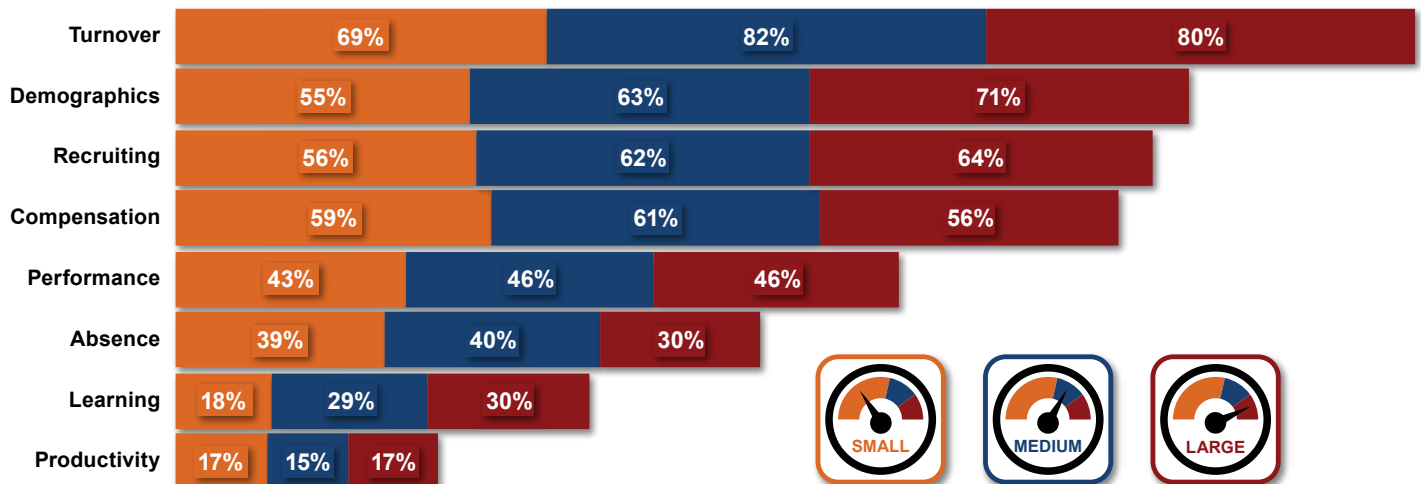
Metric usage in HR reporting doesn't vary significantly by size, region, or industry, but variations *are* seen for organizations integrating their HRMS, TM, and WFM applications as compared to organizations not integrating all three sources. Here we see a clear example of the importance of integration in WI.

Figure 93: Metrics Included in HR Reporting by Integration

	All Integrated	Not Integrated
Turnover	87%	69%
Demographics	78%	54%
Recruiting	79%	51%
Compensation	75%	54%
Performance	66%	37%
Absence	57%	31%
Learning	35%	19%
Productivity	26%	14%
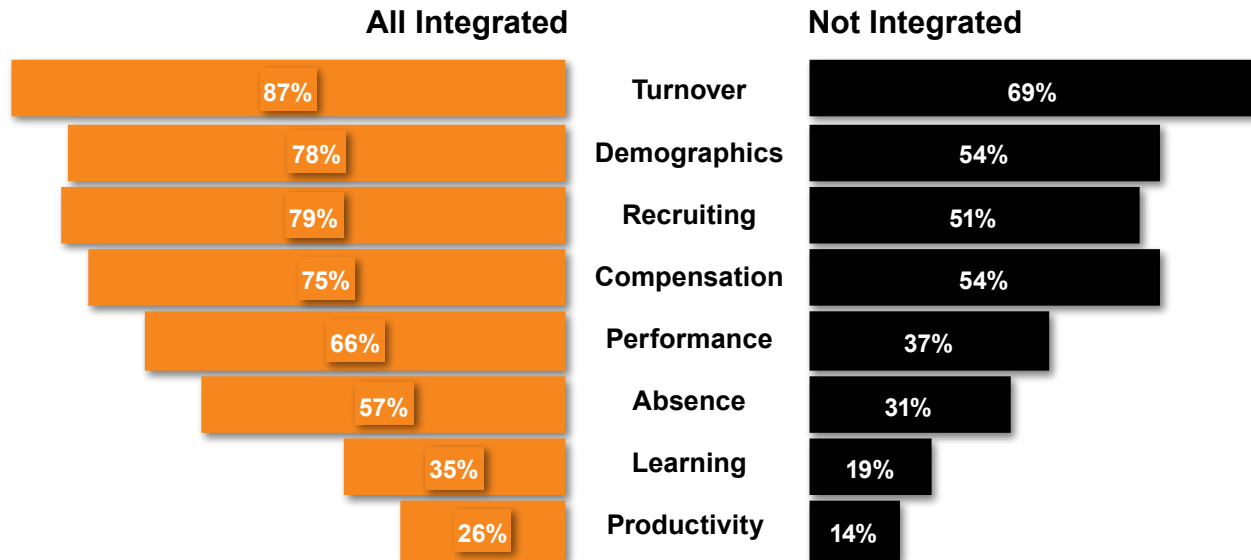
One final analysis involved reviewing the difference in metric strategies between our aggregate audience and our Outcome Driven organizations. Distinctive differences in focus can be seen in the approach each organization takes to measurement. Top Performing organizations focus heavily on Turnover and Recruiting, while Talent Driven organizations also invest time in Compensation and Demographics. Data Driven organizations measure more of everything, while Socially Responsible organizations focus as much on Compensation as they do on Turnover and invest considerably more time on Absence and Learning compared to the aggregate respondents.

Figure 94: Included Metrics by Outcome Driven Organizations

	Aggregate	Top Performing	Talent Driven	Data Driven	Socially Responsible
Turnover	74%	83%	81%	90%	75%
Demographics	60%	61%	73%	79%	62%
Recruiting	59%	72%	70%	85%	70%
Compensation	59%	44%	73%	89%	75%
Performance	44%	50%	66%	77%	62%
Absence	37%	11%	56%	62%	62%
Learning	23%	22%	44%	44%	45%
Productivity	16%	17%	24%	31%	30%

- ■ Aggregate ■ Top Performing ■ Talent Driven ■ Data Driven ■ Socially Responsible
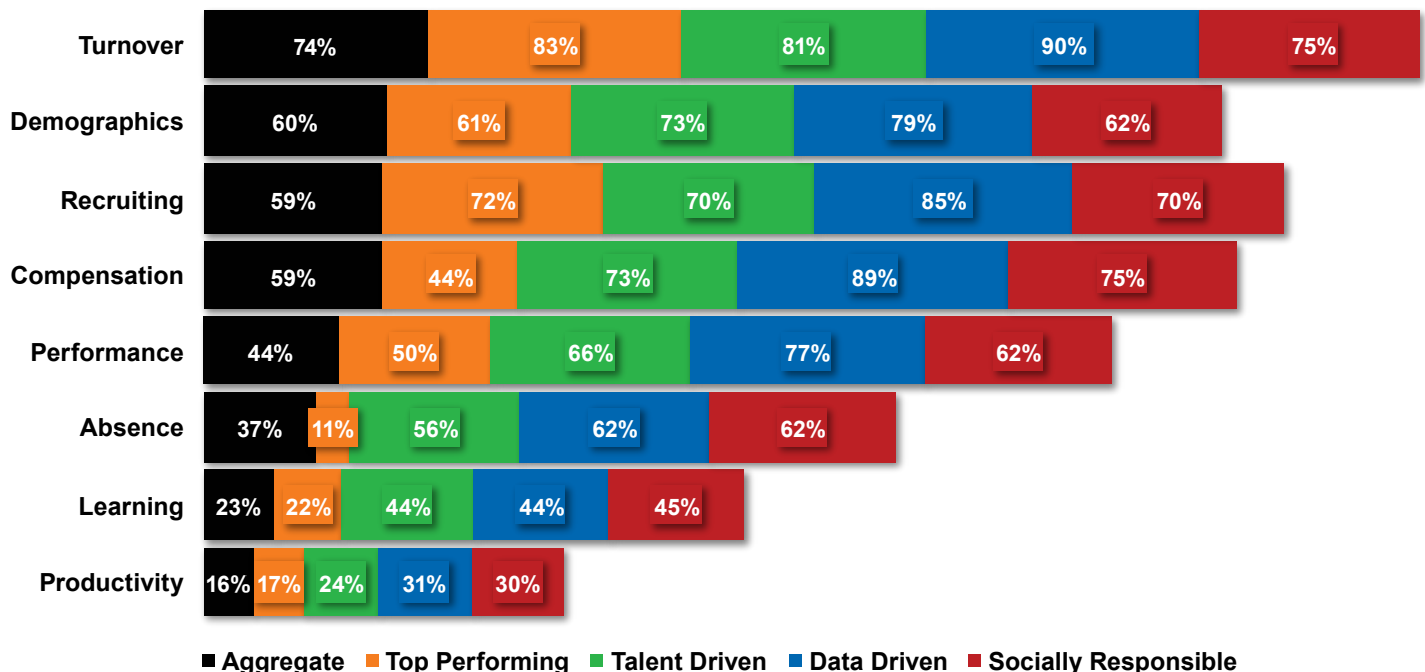
Application Integration can be an important factor in outcomes achieved, but what data needs to be integrated? Business data analyzed in a vacuum can fail to uncover critical workforce issues, and over 70% of Survey respondents integrate HR Data with one or more data sets.

Figure 95: Data Sources Integrated into for HR Analytics
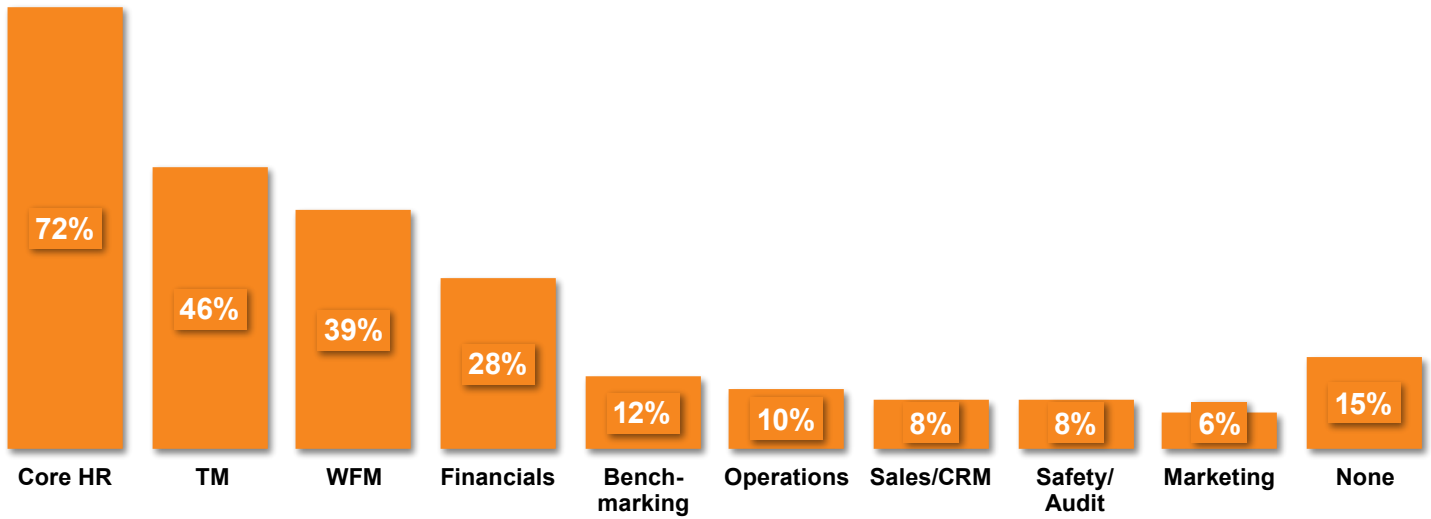
When investigating the differences in integration behaviors between Licensed/On Premise and Cloud-based HR applications, we see that organizations with Cloud solutions report higher percentages of integration with HR data. In previous years, Licensed/On Premise applications were much more likely to integrate data for Financials, Benchmarking, Operations, or Sales; however, this year we see an increase in Cloud applications data integration for all areas, particularly in Benchmarking, Operations, and Sales. Cloud applications are now approaching the integration percentages of Licensed/On Premise solutions, closing the gap on integrating Financial data. Buyers have pushed for more opportunities to integrate business and HR data, and solution providers are beginning to respond to their requests.

Figure 96: Data Sources Integrated into HR Analytics by Cloud Category
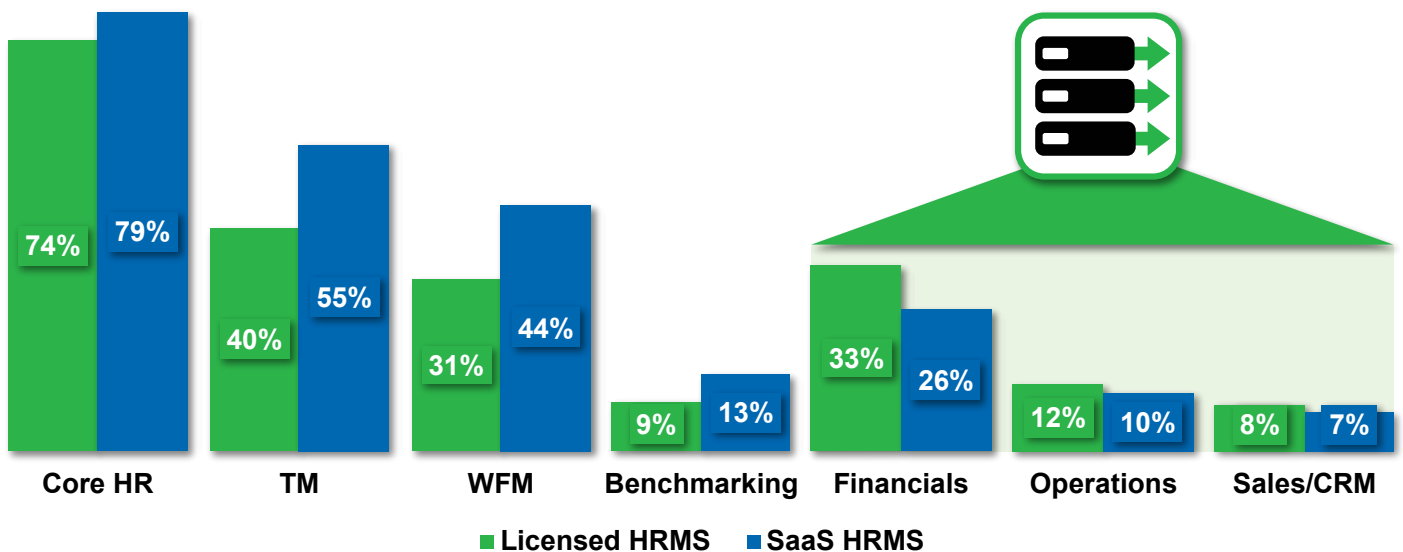
Another critical WI issue involves understanding the use of analytics efforts within the organization's HR function. Most organizations are using WI applications to manage Compliance Risks and HR Costs. Small organizations are more likely to focus on Compliance, while Large organizations are more likely to focus on Managing HR Costs.

Figure 97: Business Intelligence/HR Analytics Accomplishments

Very few organizations are attributing accomplishments related to Talent Retention, Workforce Readiness, or Work Assignments to their WI efforts. Medium organizations are slightly more likely than Small or Large organizations to focus their attention on improved Customer Satisfaction and Competitive Advantage, but overall these are small percentages. Shifting the focus of WI efforts beyond Compliance and Costs should be seen as an opportunity for improvement for all organizations

Workforce Intelligence Application Outlooks

For each application area we cover, we provide an outlook on the current state of vendor solution adoption by our Survey respondents' adoption plans for the next 12 months. This should not be considered Market Size data. We break each application out into Small, Medium, and Large organizations, as adoption varies greatly by size.

We tend to see two types of vendors in the Workforce Intelligence (WI) application category. The first group includes applications designed specifically for HR and Workforce analytics which are often integrated with existing HR applications. The second group includes multi-purpose Business Intelligence, data analytics, or data management applications which may lack HR specific language, algorithms, or reporting formats. This evolving technology category is slowly shifting from a disparate group of Workforce Intelligence and Analytics tools into a set of applications specifically designed for the analytics, planning, and reporting required for the HR function.

Figure 98: Workforce Intelligence Adoption by Size
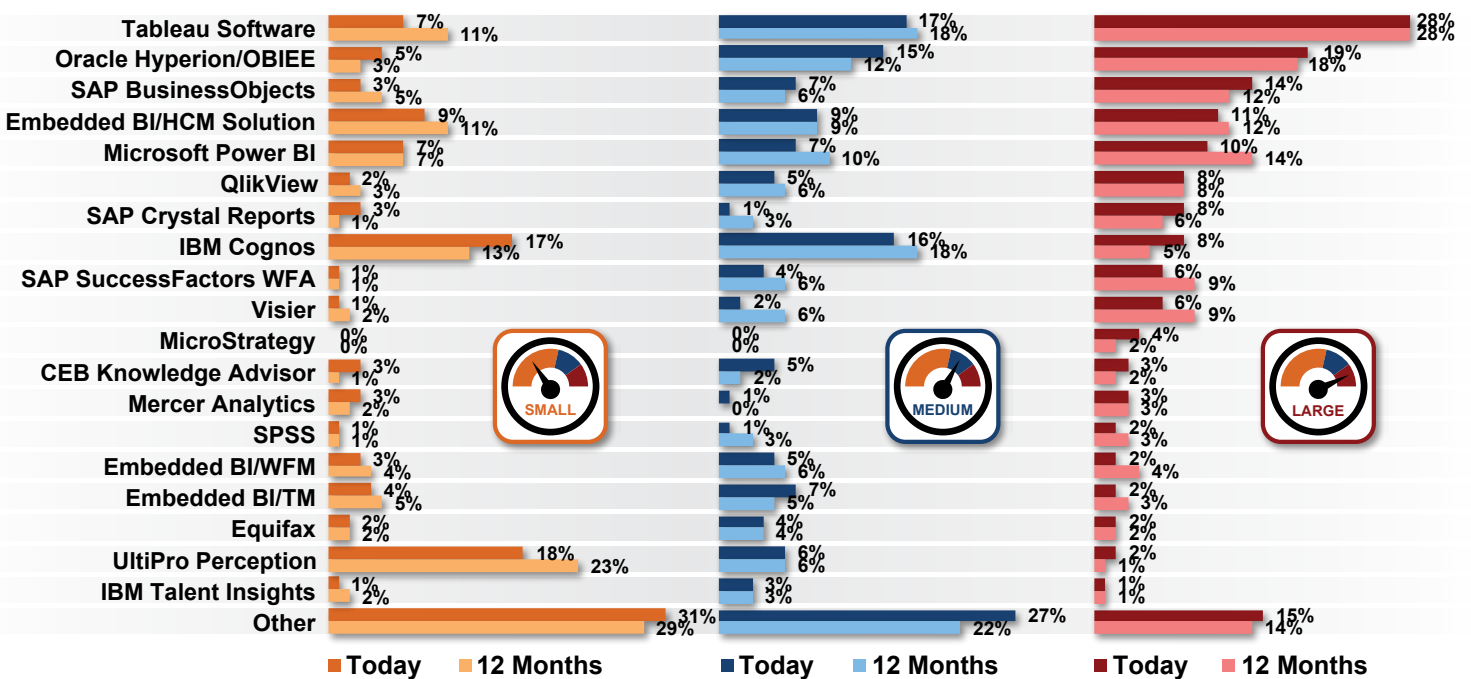
Overall, the WI vendor space has room to for expansion and no one vendor holds a sizable market share. This year Tableau Software, a visualization application, holds the top spot for overall application adoption. Oracle Hyperion/OBIEE and SAP Business Objects continue to battle to be the market's primary BI platform tool. Notable increases in adoption from last year's numbers include Tableau, Microsoft Power BI, Visier, Embedded WFM applications, and UltiPro Perception.

The Other category for WI (vendors that didn't reach 3% or more in our data set) increased dramatically from last year and includes close to 30% of Small and Medium organizations vendor choices in this area. The most often mentioned solutions include the following:

- Anaplan
- DOMO
- In-House/Microsoft Excel
- Kronos OptiLink
- OrgVue
- PeopleFluent Aquire
- SaS
- Spotfire
- SPSS
- Workday Prism
- ZeroedIn

The Total HR Systems Environment

Integration, Security, and Adoption

How to think about HR processes and supporting tools is a challenge faced by many organizations. Does your organization look at technology solutions in silos rather than as a total HR environment? Although breaking down silos has been a discussion point for years, Survey respondents report on separate solutions and identify roles focused on separate process areas.

This section discusses the factors intersecting multiple HR Technology categories, represented by the outer rings of our HR Systems Blueprint. Our research has found that these factors impact both end-user experience and the outcomes achieved from application adoption. Regardless of the type of HR System environments in use, poor integration management, Security, Data Privacy, and standard workflow processes can quickly overwhelm even the best HR technology.

Integrating the HR Experience

Creating a holistic HR environment has its place; however, these all-in-one solutions may be over-hyped and not suitable for all organizations. Many vendors invest heavily in integration standards, partner marketplaces, and micro-service development approaches. Although using fewer applications and supporting increased integration can facilitate better data cohesion and UX, some solutions will always sit outside of the traditional HR toolset, including content providers, package services, assessments, and industry tools.

We have tracked integration issues for several years and seen little change in the percentage of organizations investing in an Enterprise Integration Strategy: 20% of organizations report a Regularly Updated Strategy, and Case by Case approaches to HR Technology integration have increased by 25% for just over half of all organizations since 2016. In that time, we have seen a continuous decrease in organizations leveraging an Integration Platform or integrating key data into their core HR or TM applications.

Figure 99: Integration Strategies Matter

Enterprise Integration Strategy?

- 20% ■ Yes, Updated Regularly
- 7% ■ Yes, Rarely Updated
- 18% ■ In Development
- 36% ■ No Strategy
- 19% ■ Unknown
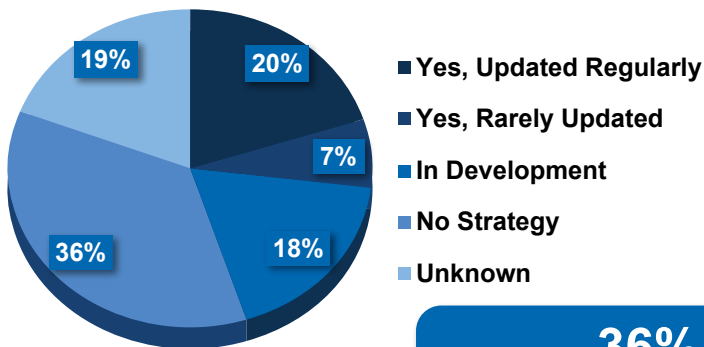
36% of organizations have a major initiative to improve integrations

HR Technology Integration Approach

- Case by Case/None — 51%
- Into TM Suite — 20%
- Into Core HR — 18%
- Integration Platform — 8%
- Other — 3%
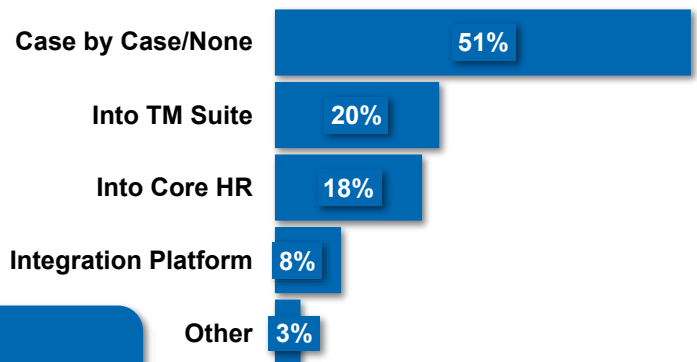
The average organization has eighteen integration touchpoints between its HR environments and non-HR systems. The average integration touch point numbers change based on the size and complexity of the organization, with an average of 75 for Large and 10 for Small organizations.

Figure 100: Enterprise Integration Strategy Touch Points by Size
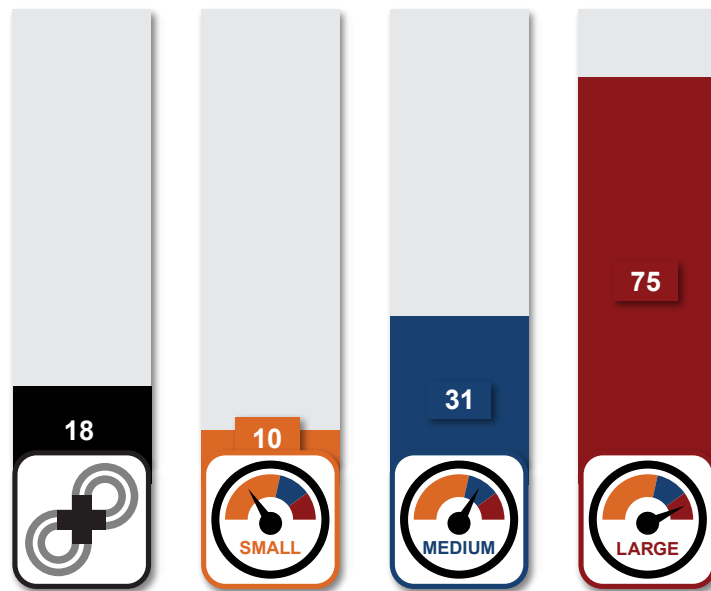
In looking at the integrations included in these touch points, we found that the top two areas most likely to be integrated were Finance and Active Directory applications. We also found that Large and Medium organizations were more likely to invest time in non-HR system integrations than Small organizations. Overall 35% of organizations reported they were not aware of any non-HR system integrations with their existing HR environment.

Figure 101: Non-HR Systems Integrated into HR by Size
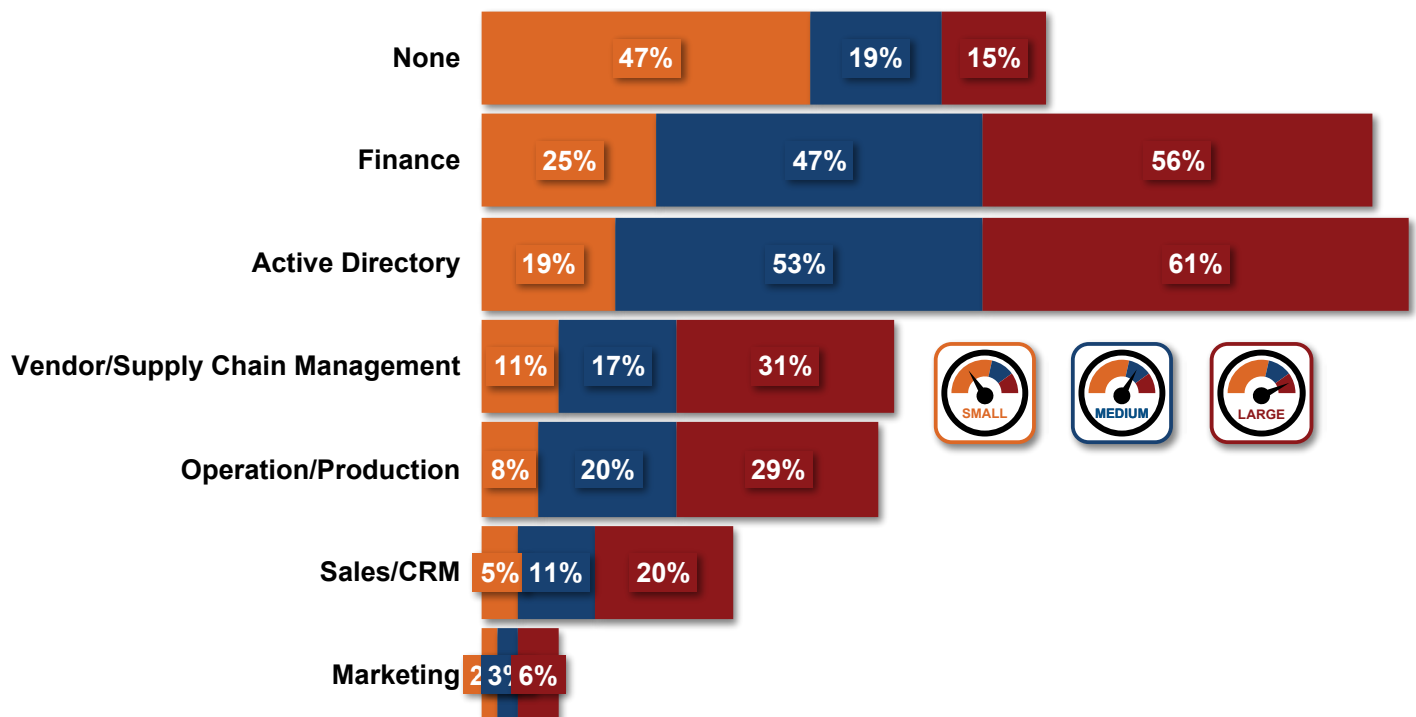
Does investing time and resources towards creating an Enterprise Integration Strategy (EIS) provide value for an organization? Organizations with an EIS positively correlate with improved Talent, HR, and Business Outcomes; this correlation is even stronger than for organizations with Cloud technology, data analytics initiatives, and Effective/Efficient Talent Management processes. In fact, organizations with an EIS had 12% higher overall Outcome ratings, and those with such strategies are a key differentiator for our Top Performing organizations.

Figure 102: Enterprise Integration Strategy
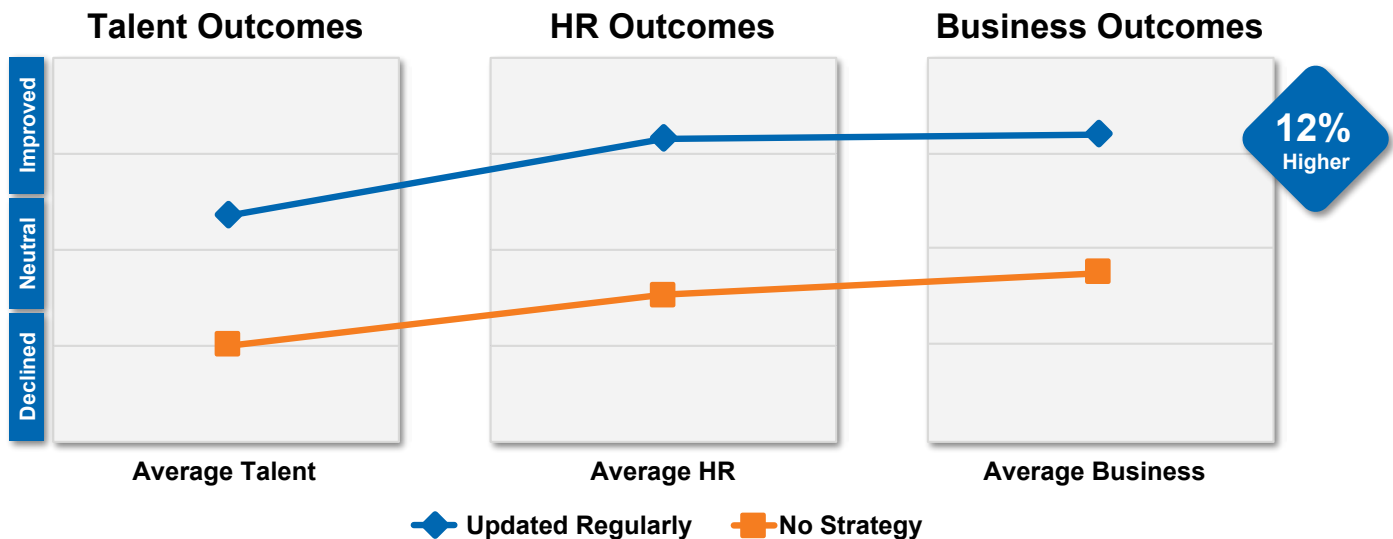
An Enterprise Integration Strategy isn't just about technology, it also includes the following factors:

- Insights into the data shared across platforms
- Clear definitions on the data not shared across platforms
- Preferred locations and ownership for master data management
- Preferred integration approaches, APIs, Enterprise Integration Platforms, etc.
- Integration tools and skillsets in-house
- Vendors pre-vetted for integration support
- Audit and risk concerns reviewed with all integration efforts

Data Privacy, Security, and Risk Assessments

Data Privacy, Security, and IT Risk Assessments are topics of conversation for both HR and IT professionals. Organizations that capture or transfer data of any kind must educate themselves on the latest laws and regulations concerning Data Privacy and verify that their Cloud vendors are also diligent regarding these issues. While 49% of organizations report they are Effective at handling Data Privacy Processes, only another 6% report Transformational process in this area. Over 120 countries currently have Data Privacy Regulations and 34 countries have specific legislation for Data Localization or Sovereignty standards.

Figure 103: Self-Reported Data Privacy Process Maturity Levels

Those with an Integration Strategy **2X** more likely to be Transformational in Data Privacy Processes

■ **Transformational** ■ **Effective** ■ **Efficient** ■ **No Process/Manual**
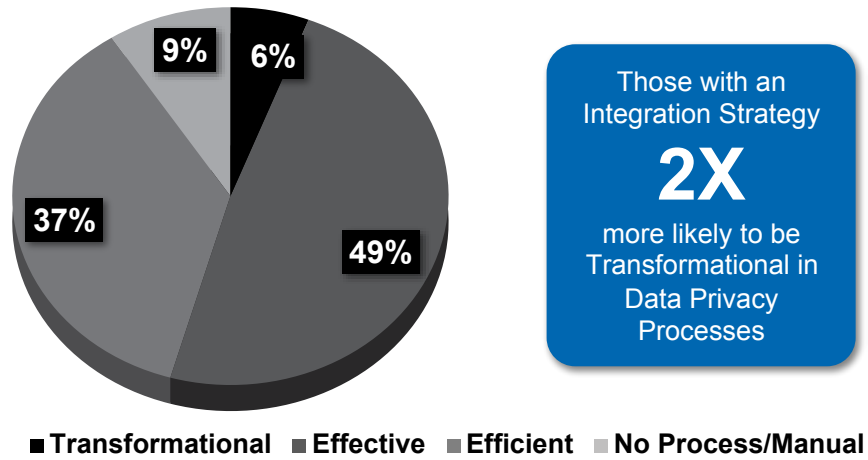
Regarding preparedness to meet General Data Protection Regulations (GDPR) which unify data privacy requirements across the European Union member states, 44% of Survey respondents said GDPR would not be applicable to their organization. Of the remaining 56% of organizations only 23% felt they were Extremely Prepared for regulations already in effect when the Survey was deployed, where fines can be up to 20 Million Euros or four percent of an organization's annual turnover. North America and APAC organizations were more likely to state that they were unprepared to meet GDPR regulations as compared to EMEA.

Figure 104: Preparedness for General Data Protection Regulations Overall and by Region

■ **Extremely Prepared**
■ **Moderately Prepared**
■ **Neutral**
■ **Moderately Unprepared**
■ **Extremely Unprepared**

■ **EMEA** ■ **North America** ■ **APAC**
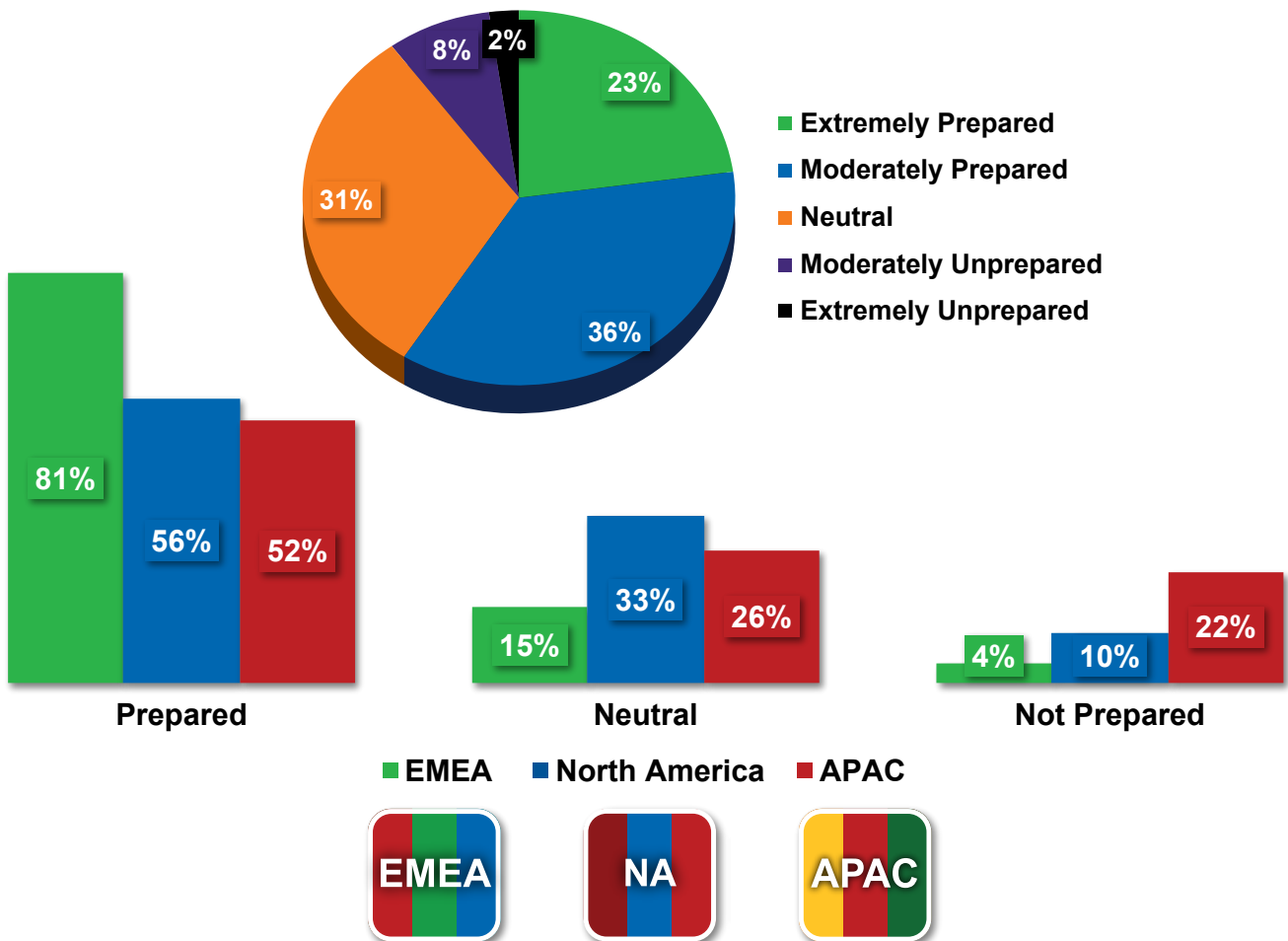
In today's era of brand management and hyper-value of personal data, being Effective at Data Privacy processes simply isn't enough—organizations should strive to be Transformational. Those organizations with an EIS are twice as likely to already have Transformational processes in place. As organizations continue to build personalized HR environments which deliver real business insight along with personal employee information, navigating data challenges becomes an area of concern. Organizations can start to address Data Privacy by creating a Cyber Security Strategy and/or performing IT Risk Assessments that include their entire HR System environments. Use of a Regularly Updated Cyber Security Strategy increased 30% over the last year, with 60% of organizations reporting an Updated Regularly HRIT Security Strategy.

Figure 105: HRIT Security Strategy
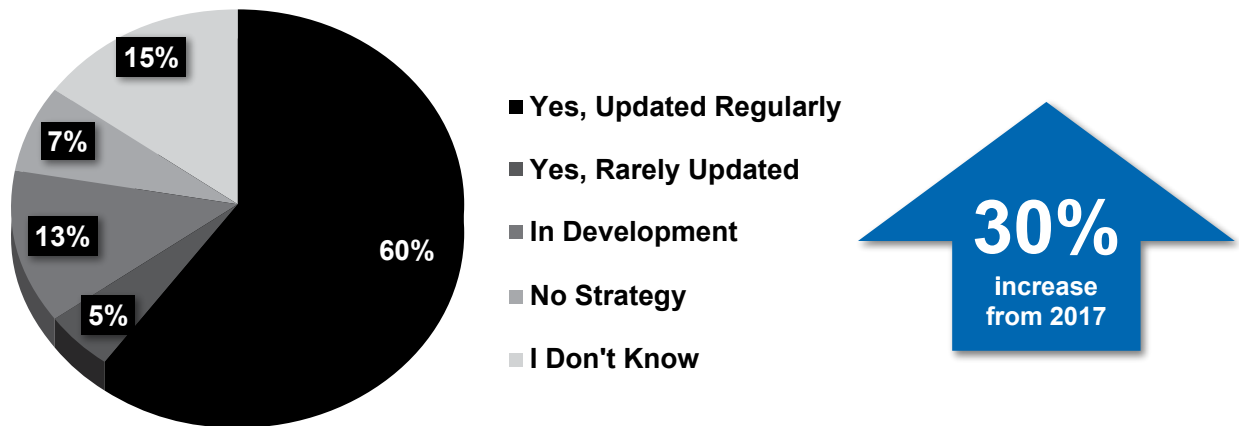
What's included in a Cyber Security Strategy? HR Systems are included for 85% of organizations and, although we question the 15% that do not include HR, overall it was a key component regardless of organizational size, industry, or region.

Figure 106: Systems Included in Cyber Security Strategy
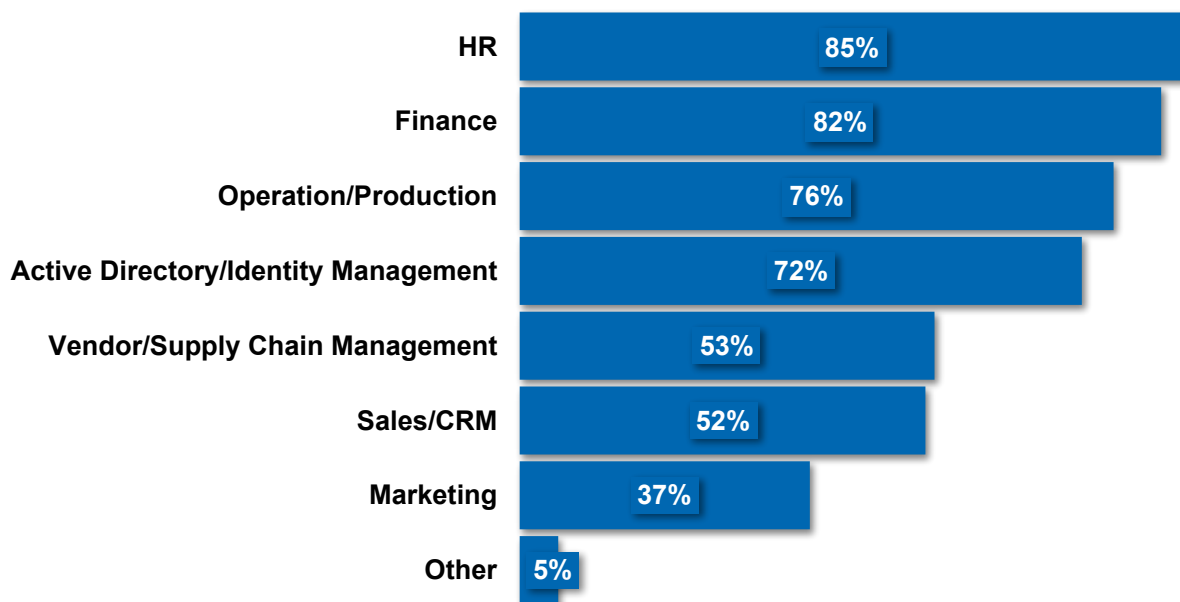
Personal Mobile devices create Cyber Security risks for organizations, yet few organizations have standardized Bring Your Own Device (BYOD) policies: 27% of organizations have a BYOD policy in place for everyone, while 22% of Large organizations have No Policy but still allow employees to access the network with Personal Devices. Organizations with an Enterprise Cyber Security Strategy don't shy away from IT challenges or limit access to various technology environments, and they are twice as likely to have a BYOD policy in place—and are also twice as likely to include everyone in that policy.

Figure 107: Bring Your Own Device Policies by Size

	SMALL	MEDIUM	LARGE
Yes, for Select Groups	18%	22%	15%
No Policy, But Personal Devices Access Network	23%	23%	17%
Yes, for Everyone	23%	29%	34%
No and Network Restricted	35%	26%	34%
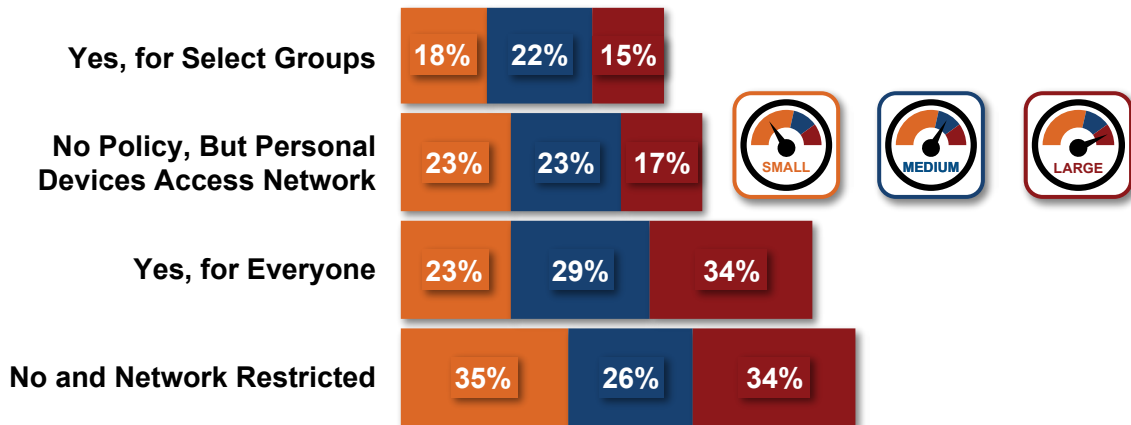
Organizations with BYOD policies are more likely to employ security processes and technology, including Multi-Factor Authentication (MFA) and Remote Wipe Technology, to protect both the employee and their organization from hacking by outside entities. Just 53% of Small organizations are using MFA for HR Applications and 60% use Remote Wipe Technology. Security procedures shouldn't make the employee's job harder by limiting access to needed information, but should still make data more secure by creating processes to nullify software and device vulnerabilities, lost passwords, or risky employee behavior.

Figure 108: Cyber Security Tools In Use by Size

	SMALL	MEDIUM	LARGE
Multi-Factor Authentication	53%	59%	50%
Remote Wipe Technology	60%	69%	74%
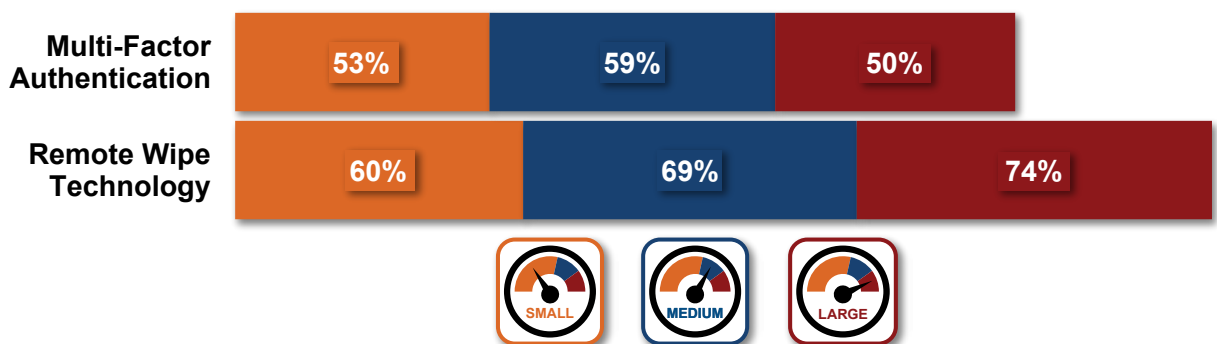
Another major issue in Cyber Security strategies involves the ownership of Content, Data Privacy, and Configuration—all decisions that could impact security access. When we asked organizations about the roles primarily responsible for these critical areas, we found major differences between organizations that had All Cloud applications versus those with all On Premise applications. This data provides great insight into the trend for more strategic HRIT roles to manage multiple levels of data management and privacy issues for an organization.

Figure 109: Primary Roles Responsible for Content Security and Data Privacy

	All Cloud		On Premise
HRIS/HRIT Role	48%		18%
IT Role	34%		47%
Risk/Audit	14%		21%
HR Tech Vendor	2%		12%
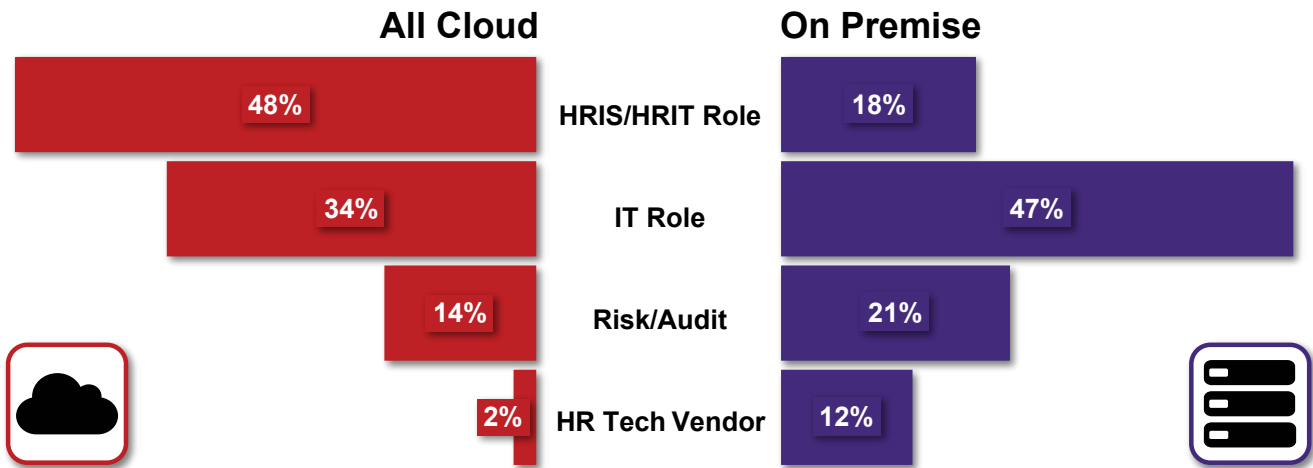
Figure 110: Primary Roles Responsible for HR System Configuration Decisions

	All Cloud		On Premise
HRIS/HRIT Role	54%		37%
IT Role	15%		17%
Functional HR Role	17%		20%
IT Leadership/CIO	6%		14%
Governance Committee	4%		6%
HR Tech Vendor	2%		3%
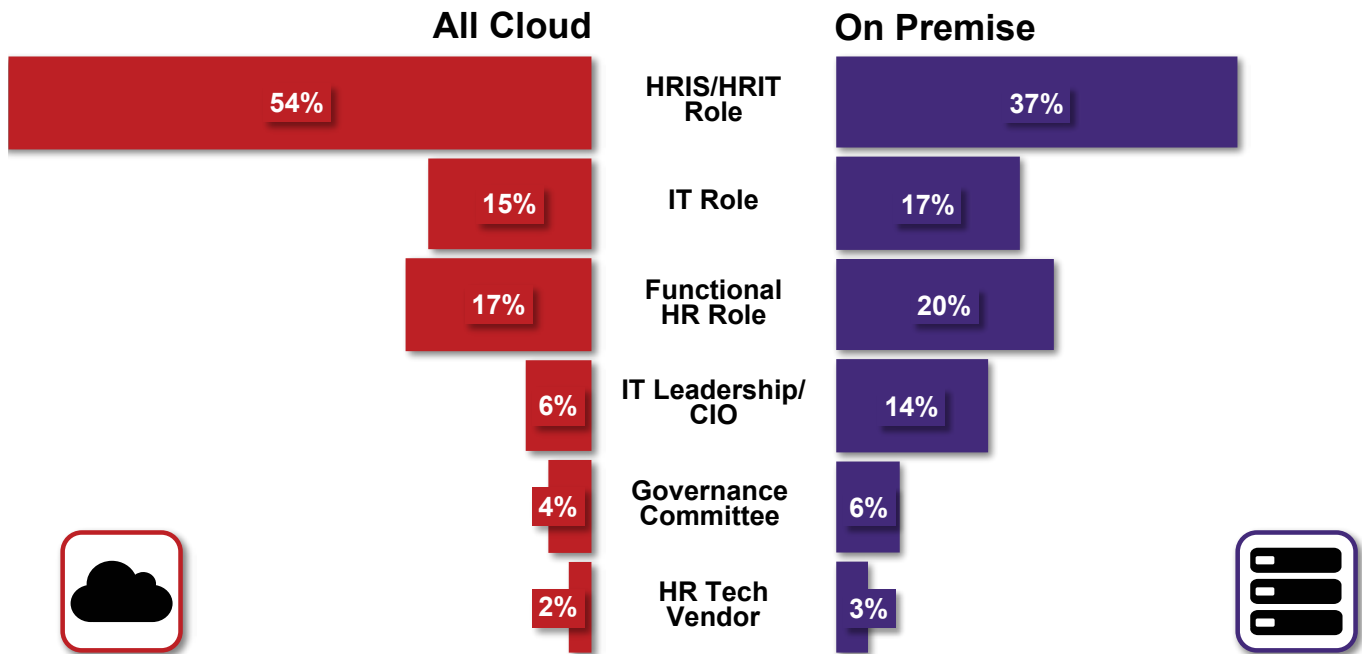
Adoption and Service Delivery

The effective management of integration, Cyber Security, and data is a critical issue for every HR Technology function and these are popular topic areas for most HR Technology leaders. However, for HR Technology administrators, issues concerning adoption and Service Delivery may receive less focus but are just as critical to a valuable HR Technology environment. Organizations need data—and technology allows organizations to effectively and efficiently capture and use it. Only 10% of current organizations measure their HR Technology adoption in any way. Large, Data Driven, and Talent Driven organizations are almost twice as likely to measure HR Technology adoption, as are those organizations headquartered outside of North America.

Figure 111: Organizations that Measure HR Technology Adoption

By Size

By Outcome Driven
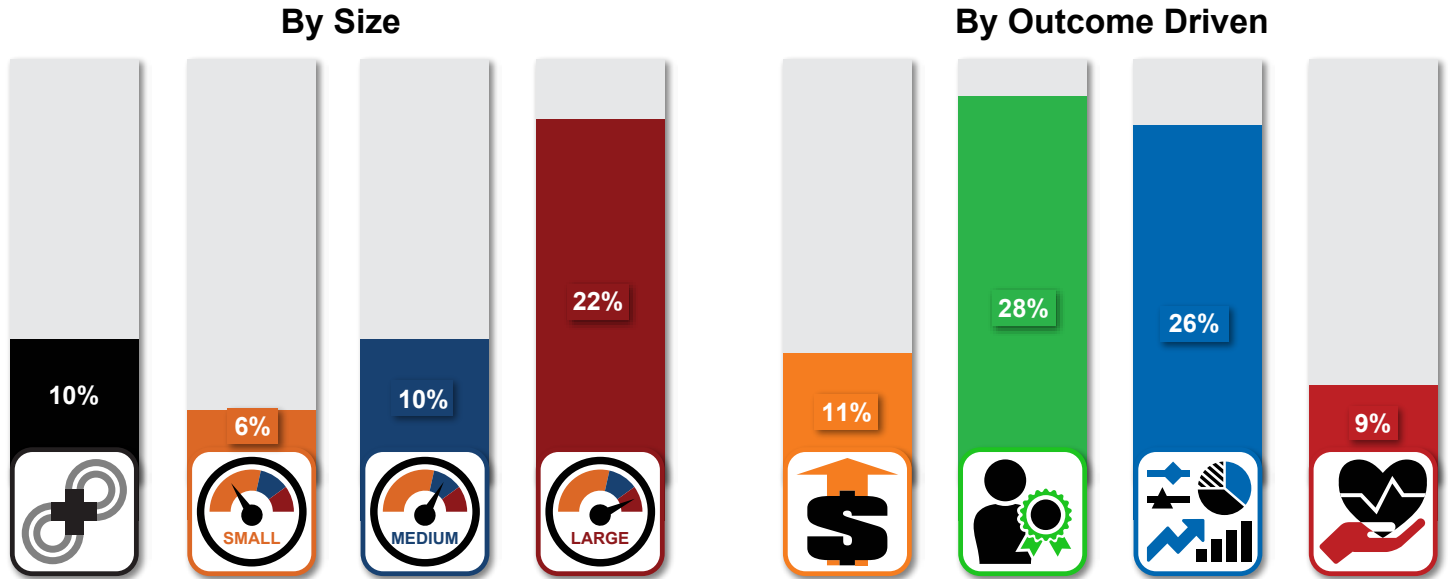
There is truth to the adage, "What gets measured gets done." Organizations that make the effort to measure their HR Technology adoption are aligned with 10% higher Talent, HR, and Business Outcomes.

Figure 112: Measuring HR Technology Adoption Aligns with Higher Overall Outcomes

Talent Outcomes

HR Outcomes

Business Outcomes

10% Higher

Measure Adoption   Do Not Measure Adoption
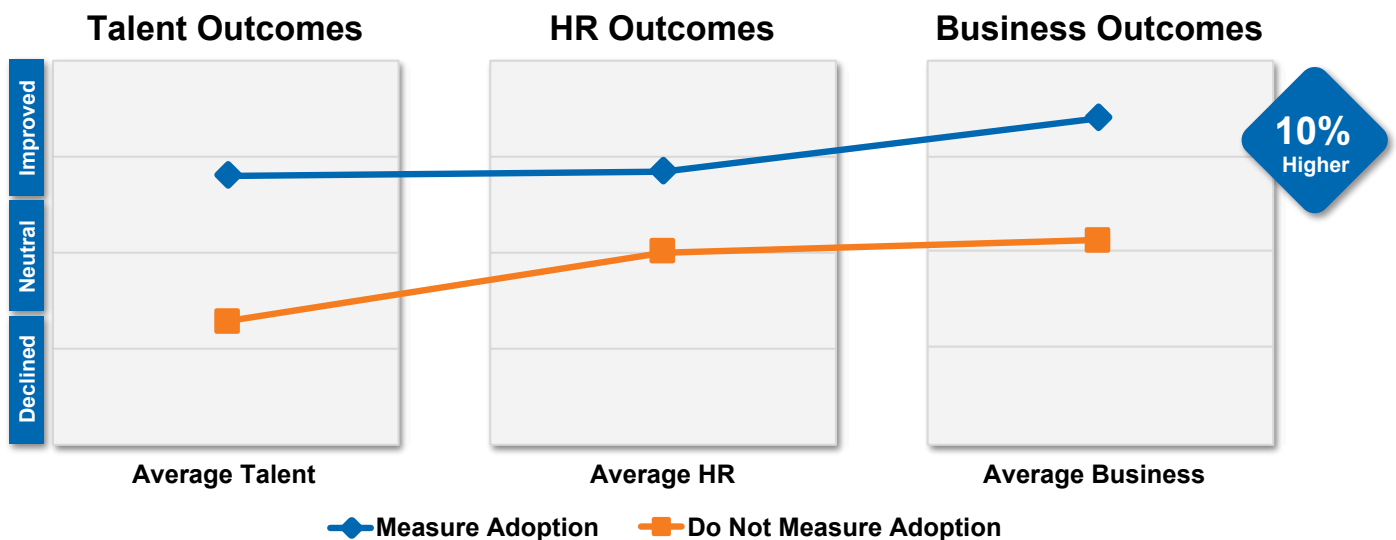
Survey responses regarding adoption measurement techniques include the following:

- User Login Counts, both Desktop and Mobile
- Feedback Surveys
- Process Participation
- Average Transactions Completed
- Google Analytics and Reporting Pulls
- Self-Service Transaction Volume/Utilization
- Time/Speed to User Requests
- Social Contributions
- Net Promoter Scores (NPS), Internal
- Anecdotal, Interviews & Focus Groups
- HR Tech Vendors' Adoption Planning Module
- HR Tech Vendor-Delivered Reports

HR Process Maturity and Service Delivery

Although Data and Outcomes are focal points for HR Technology environments, the workflows for each HR process are still integral components of the employee experience. No technology will fix a bad process, and a bad process can cost you more than just adoption numbers—it can also cost time, money, and resources.

When we asked organizations about the maturity level of various HR Process environments, it was very clear that some process areas were more valued than others. The most Effective or Transformational process areas were Data Privacy, Payroll, and Benefits, while processes such as Career, Workforce, and Succession Planning were the most likely to have No or Random processes. Organizations measuring HR technology adoption levels were 1½ times more likely to be in our Top 10% Process Maturity group. Service Delivery models also impact Process Maturity as those with a Shared Services delivery model were 50% more likely to be in our Top 10% Process Maturity organizations.

Figure 113: Maturity Ratings for HR Processes

Legend: ■ Effective/Transformational   ■ No Process/Random

Process	Effective/Transformational	No Process/Random
Data Privacy	54%	8%
Payroll	49%	4%
Benefits	47%	7%
HR Recordkeeping	41%	10%
Time/Attendance	40%	10%
Recruiting	39%	20%
Onboarding	37%	23%
Compensation	35%	24%
Absence	34%	18%
Performance	34%	24%
Learning	31%	32%
Workforce Reporting	28%	37%
Profile Management	27%	38%
Scheduling	26%	37%
Business Intelligence	25%	45%
Career Planning	20%	57%
Workforce Planning	20%	48%
Succession Planning	20%	56%

Size plays a major role in the need for and adoption of a Shared Services Model: over 50% of Small organizations have a Shared Services Model today, as well as 75% of Medium, and 80% of Large organizations. Most organizations have Centralized Shared Services Model, with Centralized processes and technology—but almost a quarter of organizations leverage either a Distributed (Local Shared Services and Local Management) or Multiple Shared Services Models (Local Shared Services with Central Management). Size also plays a role in whether an HR Shared Services Model is more often part of an Enterprise-wide Shared Services function or a separate HR Shared Services function. Small organizations are much more likely to have an Enterprise model, while Large and Medium organizations are more likely to separate out their HR Shared Services function.

Figure 114: Employee Service Delivery Models by Size
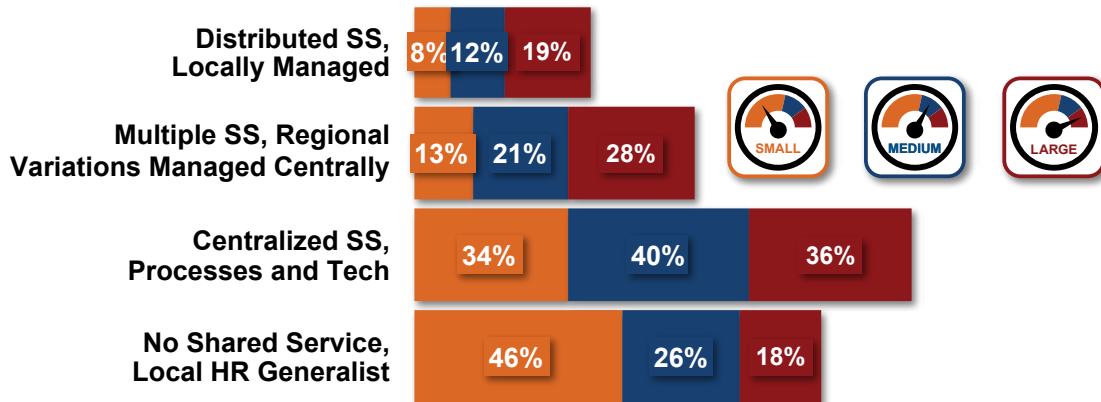
Regarding interaction approaches taken by a Shared Services organization, on average, a Shared Services center uses 2.3 different contact methods per employee, and Email is the most common at 91%. However, Call Centers are critical for the Shared Services centers of Large organizations. Small organizations are more likely to use Text Messaging interactions when compared to Large.

Figure 115: Shared Services Center Interaction Models
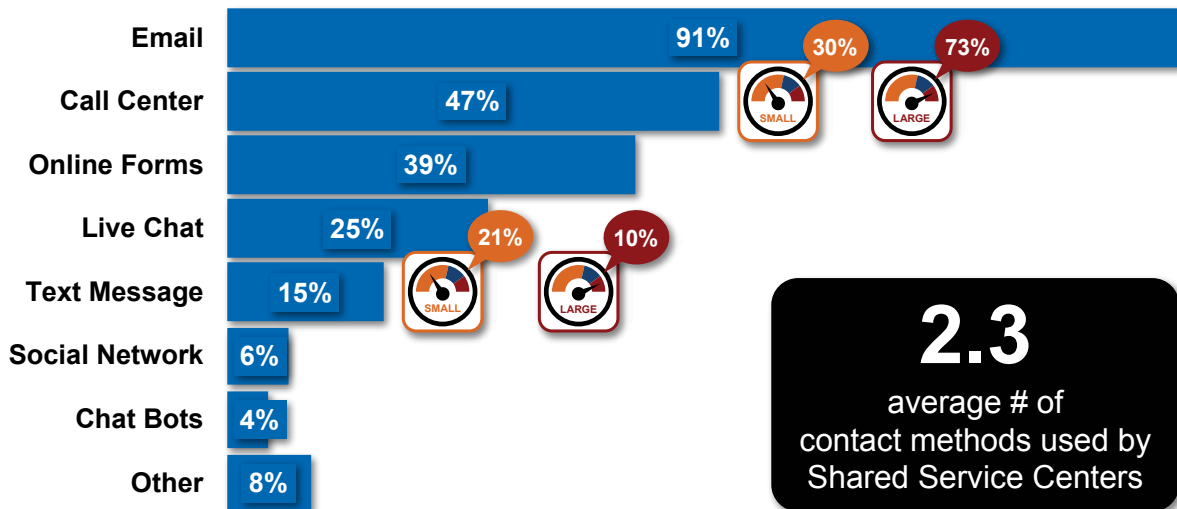
An organization's Total HR Environment is more than just the technology—numerous factors play a role in achieving the goals an organization sets when making HR Technology acquisitions. When all of these goals are achieved, organizations can then turn to their HR Technology partners and say, "More, please—we want more outcomes, more value, and more opportunities to help employees and businesses leverage these tools."

Implementations and Maintenance

Congratulations! The business case worked—leadership sees the need for change, the current application no longer meets business needs, the new application is business focused and engaging, and the organization is clamoring for new Workforce Intelligence. When an organization makes the fateful decision to make a change, a multitude of issues face the HR technologist and their team:

- How much do I try to do at once?
- How long will this take?
- How much is this going to cost?

- What resources will I need now?
- What resources will I need for maintenance?
- How do I ensure adoption?

How an organization handles implementation can mean the difference between success or failure, regardless of solution or vendor. Implementations require sponsorship, planning, resources, clear communications, and flexibility. On average, 13% to 17% of organizations are planning to replace or are evaluating replacement of at least one major HR application at any time. After several years of high percentages of replacement plans, we are now seeing a stabilization of the HR Technology replacement cycle. However, for Large organizations, we see slightly higher-than-average replacement and evaluation plans at 22%.

Figure 116: Plans for Replacing HR Technologies by Size

Replacing in 12–24 Months

	HRMS	Payroll	Workforce Management	Talent Management
SMALL	10%	10%	9%	11%
MEDIUM	16%	15%	20%	20%
LARGE	11%	22%	22%	17%

Evaluating

	HRMS	Payroll	Workforce Management	Talent Management
SMALL	14%	14%	17%	18%
MEDIUM	15%	16%	22%	20%
LARGE	19%	18%	22%	24%

■HRMS ■Payroll ■Workforce Management ■Talent Management
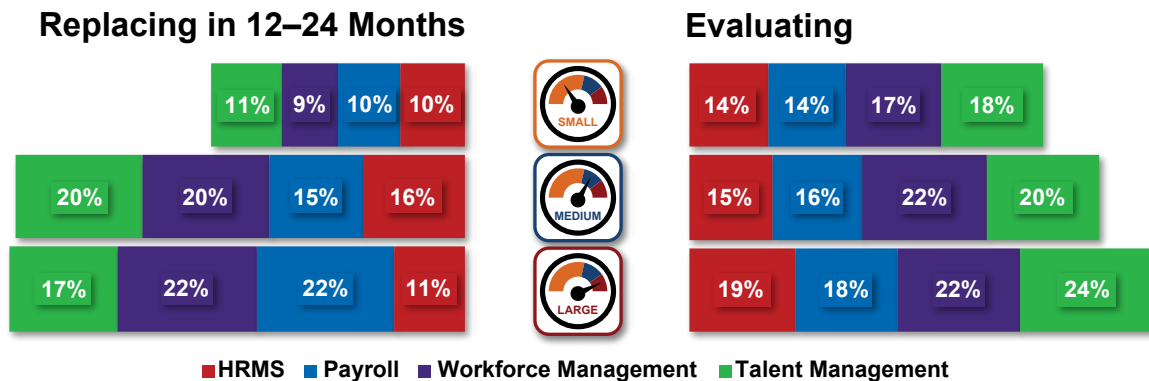
An organization's existing HR Technology deployment platform influences plans to make changes to existing systems. Organizations with Hybrid deployment are the most likely to be making changes, particularly for HRMS, WFM, and TM applications. Cloud deployment models aren't immune to replacement efforts: 14% of organizations with HRMS, Payroll, WFM, and TM all deployed in the Cloud are evaluating WFM changes.

Figure 117: Plans for Replacing HR Technologies by Deployment Model

Replacing in 12–24 Months

	HRMS	Payroll	Workforce Management	Talent Management
Cloud	5%	4%	7%	7%
On-Premise	19%	19%	13%	19%
Hybrid	20%	17%	17%	19%

Evaluating

	HRMS	Payroll	Workforce Management	Talent Management
Cloud	9%	10%	14%	12%
On-Premise	17%	12%	11%	21%
Hybrid	18%	18%	24%	25%

■HRMS ■Payroll ■Workforce Management ■Talent Management
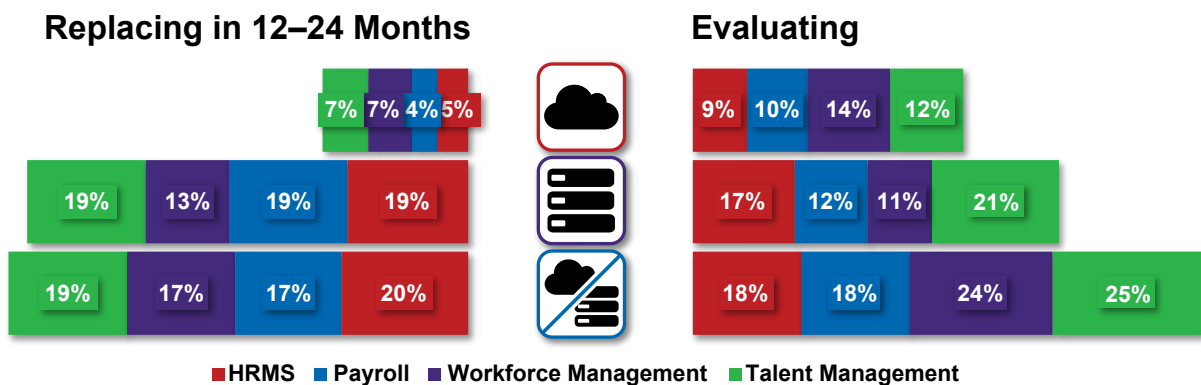
Within the last 12 months, over 20% of Survey respondents implemented an HR application in one of our four major categories, while 7% implemented an application outside of these technology areas.

Figure 118: HR Applications Implemented in the Last 12 Months
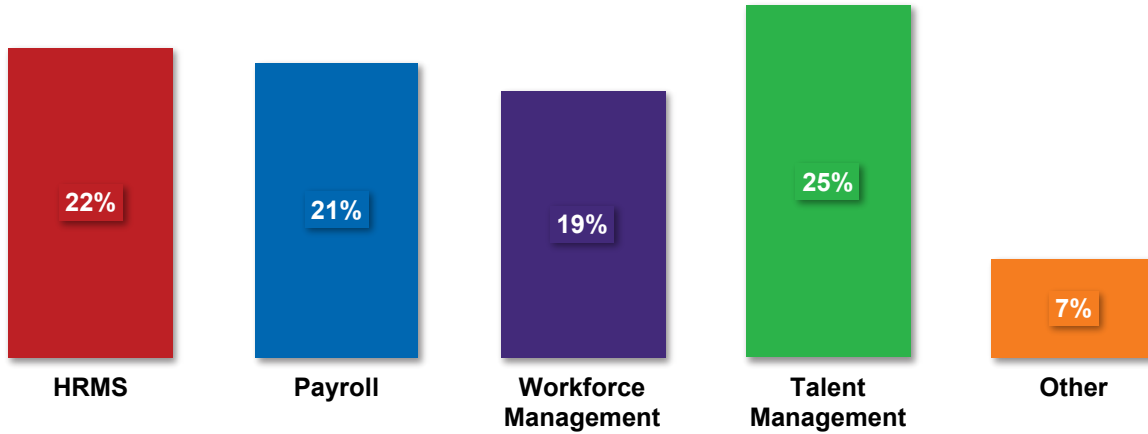
Implementation Scope and Timelines

When it comes to scope and timelines, organizations need to decide what to do first and which applications should be implemented together. Sometimes these decisions are based on budgetary concerns or the scale of the system being replaced—but often organizational complexity and size make the biggest difference. Overall, organizations are likely to implement a Payroll application with their HRMS implementation; Small organizations are likely to add WFM, while Large organizations are more likely to add TM to their implementation efforts.

Figure 119: HR Applications Implemented with the HRMS
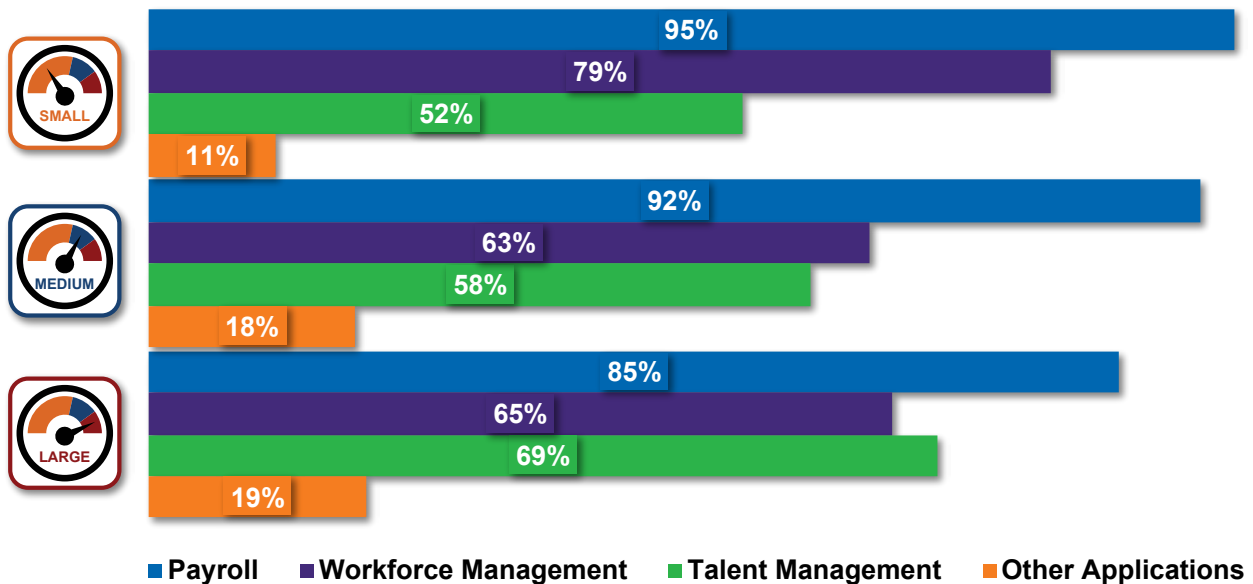
Once an organization decides to either replace or upgrade an existing solution, the next focus becomes timeline and costs. Implementation timelines have been a constant challenge for organizations dealing with On Premise solutions, particularly for large global organizations. Two- to three-year implementation timelines for enterprise-wide HRMS environments were not uncommon, especially when implemented with other enterprise-wide solutions such as Finance or Sales. With the onset of Cloud and more vanilla implementations of On Premise applications, these average implementation timelines have condensed considerably over the last few years.

The following figure provides insight into the average implementation timelines for all four major HR Technology categories by size of organization. HRMS and Payroll applications generally have the longest implementation timelines and, as previously reported, are frequently included in the same implementation.

Figure 120: Average Implementation Timelines by Size in Months

Human Resource Management System

	SMALL	MEDIUM	LARGE
9.64	7.24	11.86	16.48

Payroll

	SMALL	MEDIUM	LARGE
7.57	5.78	10.76	11.59

Workforce Management

	SMALL	MEDIUM	LARGE
6.90	6.06	6.71	10.64

Talent Management

	SMALL	MEDIUM	LARGE
6.81	5.11	7.96	10.17
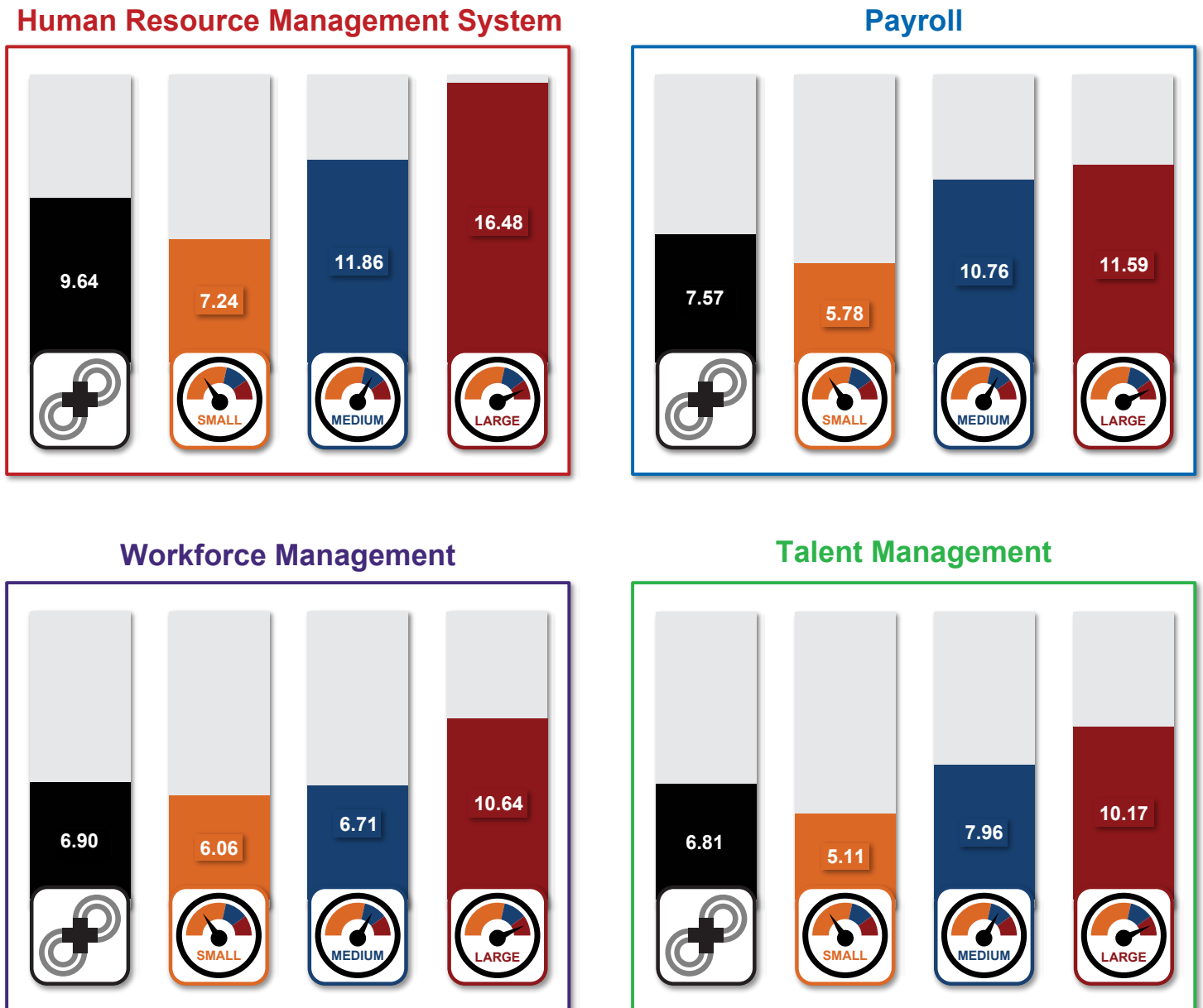
We also looked at how organizations chose to implement their applications; most chose to rollout to the entire organization at the same time rather than employ phased approaches. Large organizations are much more likely to leverage a phased rollout model, while Small organizations are more likely to use a rollout phased by specific roles within the organization.

Figure 121: Application Rollout Approach by Size

Legend: ■ All at Once ■ Phased Business Unit ■ Phased Role ■ Phased Geography ■ Other

Size	All at Once	Phased Business Unit	Phased Role	Phased Geography	Other
SMALL	76%	12%	9%	3%	1%
MEDIUM	67%	14%	4%	13%	3%
LARGE	55%	18%		22%	5%
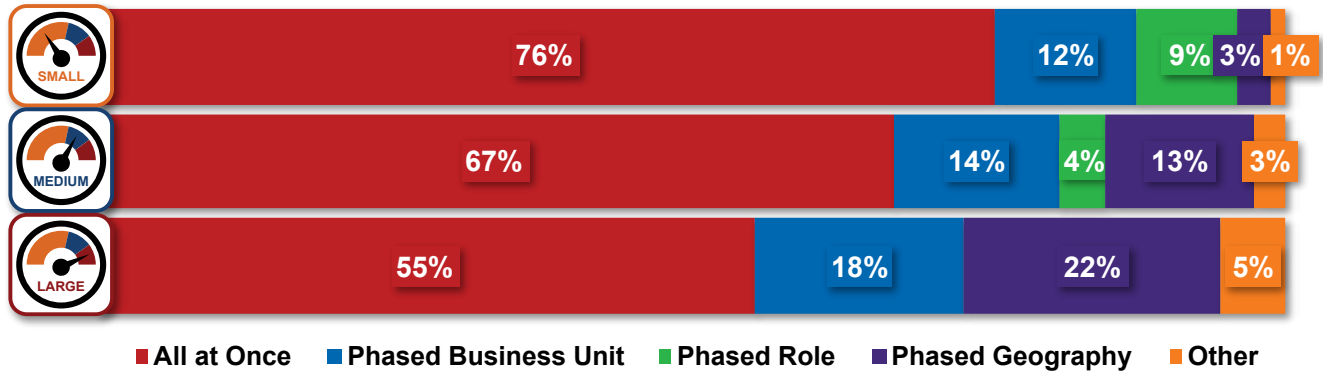
Implementation Resources

How do organizations resource the additional workload of an application selected for implementation? Asking internal staff to pick up the extra work, determining that the system vendor selected can help with the extra work, or hiring a Third Party consulting organization to assist are all options. We show the average percentage of work completed by each of these options in implementations for the last 24 months by size. Large organizations are more likely to leverage Third Party services, while Small organizations are more likely to leverage System Vendor services.

Figure 122: Implementation Resources Deployed by Size

Legend: ■ Internal ■ System Vendor ■ Third Party

Size	Internal	System Vendor	Third Party
SMALL	52%	36%	12%
MEDIUM	60%	15%	25%
LARGE	53%	22%	25%
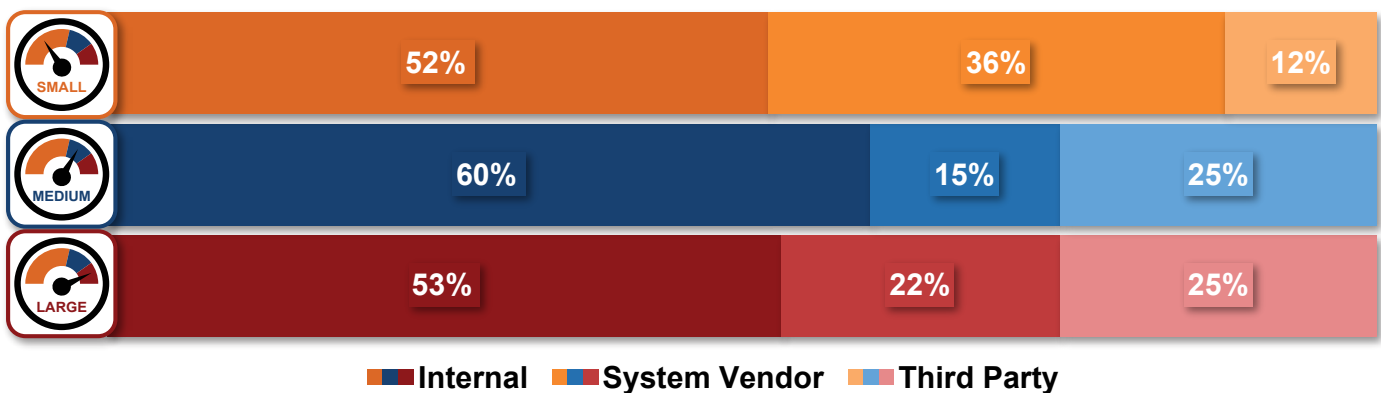
We asked organizations to identify which resources were involved in various implementation tasks and break this information out by size. Almost 50% of the organizations had internal resources involved in every aspect of the implementation process. System Vendor resources were most often involved in System Training and Configurations, while 52% of Large organizations and 60% of Small organizations expected System Vendors to provide Strategy/Guidance. Third Party resources were most often involved in Integrations and Data Input/Setup, as well as more strategic tasks such as Project Management, setting Strategy, and providing guidance for the implementation efforts.

Figure 123: Division of Implementation Work by Size

	Internal	**System Vendor**	**Third Party**
SMALL			
Testing/Validation	80%	53%	7%
Project Management	71%	61%	15%
Data Input/Setup	66%	63%	17%
Report/Dashboards	59%	61%	9%
Strategy/Guidance	52%	60%	17%
Process Training	50%	63%	12%
Integrations	48%	70%	19%
Systems Training	41%	77%	10%
Configurations	40%	74%	16%
MEDIUM			
Testing/Validation	92%	18%	34%
Project Management	89%	24%	32%
Data Input/Setup	92%	27%	35%
Report/Dashboards	73%	22%	43%
Strategy/Guidance	75%	33%	42%
Process Training	69%	36%	23%
Integrations	81%	30%	46%
Systems Training	63%	45%	24%
Configurations	67%	38%	46%
LARGE			
Testing/Validation	100%	21%	29%
Project Management	82%	36%	43%
Data Input/Setup	82%	32%	39%
Report/Dashboards	72%	36%	28%
Strategy/Guidance	70%	52%	41%
Process Training	85%	41%	19%
Integrations	79%	36%	57%
Systems Training	75%	36%	36%
Configurations	61%	54%	46%
Testing/Validation	85%	41%	17%
Project Management	76%	49%	23%
Data Input/Setup	73%	51%	25%
Report/Dashboards	64%	49%	19%
Strategy/Guidance	59%	53%	26%
Process Training	59%	53%	16%
Integrations	59%	56%	31%
Systems Training	51%	63%	17%
Configurations	49%	64%	27%

HR Systems Expenditures

Total HR Technology expenditures are difficult to identify without clear benchmarking parameters, although we attempt to provide a general view of this year's HR Technology expenditure data by organization size and complexity. These costs do not include salaries or external implementation costs. Total annual HR technology Costs per Employee average from $176 to $310 by employee size; however, these numbers change dramatically based on the number of systems implemented, the amount of internal resources versus outsourced resources, global scale, and the complexity of service and support needs. These aggregate numbers are helpful as a ballpark figure and can provide a lens through which to review year-over-year annual expenditures per employee.

This year, we see a slight increase in expenditures for Large organizations; this may be due to the fact that more Large organizations have implemented new solutions in the last two years. Small and Medium organizations are normalizing spending and reducing costs, therefore we see a decrease in expenditures for these sizes. For all organization sizes, it is common to see an increase in expenditures during major implementation years.

Figure 124: Total HR Technology Costs per Employees by Size

Costs Per Employee				Average # of Applications			
$266	$310	$186	$176	7.53	6.91	8.76	9.09
	SMALL	MEDIUM	LARGE		SMALL	MEDIUM	LARGE
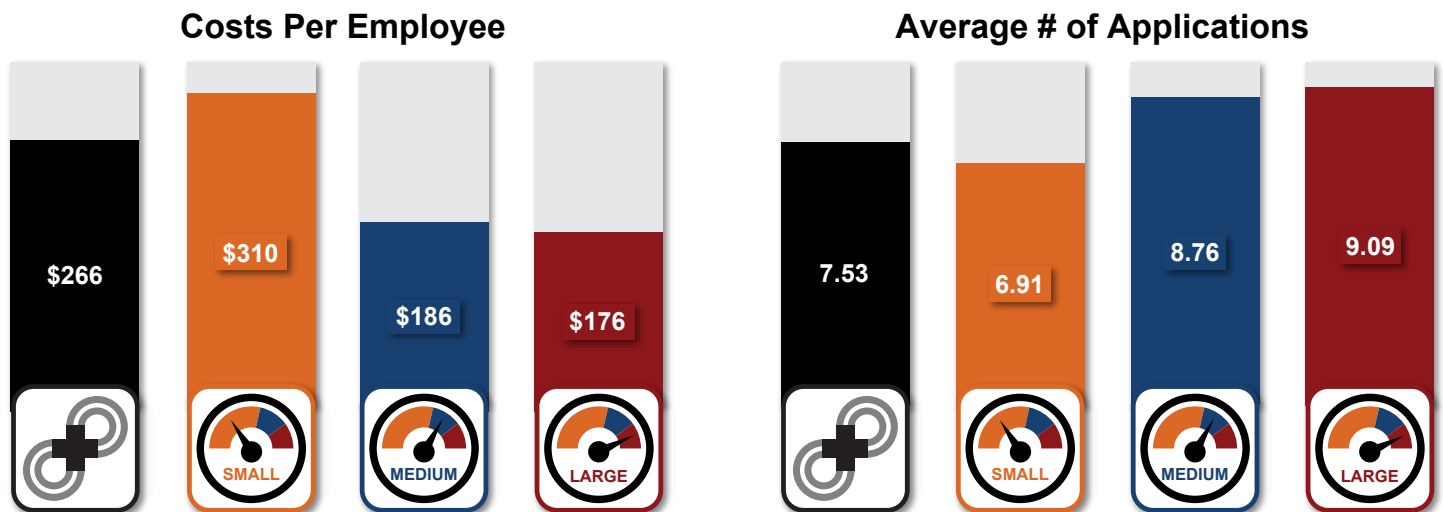
We also compare organizations that are slightly more aligned in their overall HR Technology makeup, size, and deployment models, and provide an overview of annual expenditures for HR technology costs by deployment method and for similarly complex HR technology environments.

Figure 125: System HR Technology Costs per Employees by Deployment Model

		Avg. # of Applications
	$214	6.2
	$264	6.92
	$277	7.78
	$300	9.05

Cloud Deployments include **43%** more applications at a **29%** higher cost
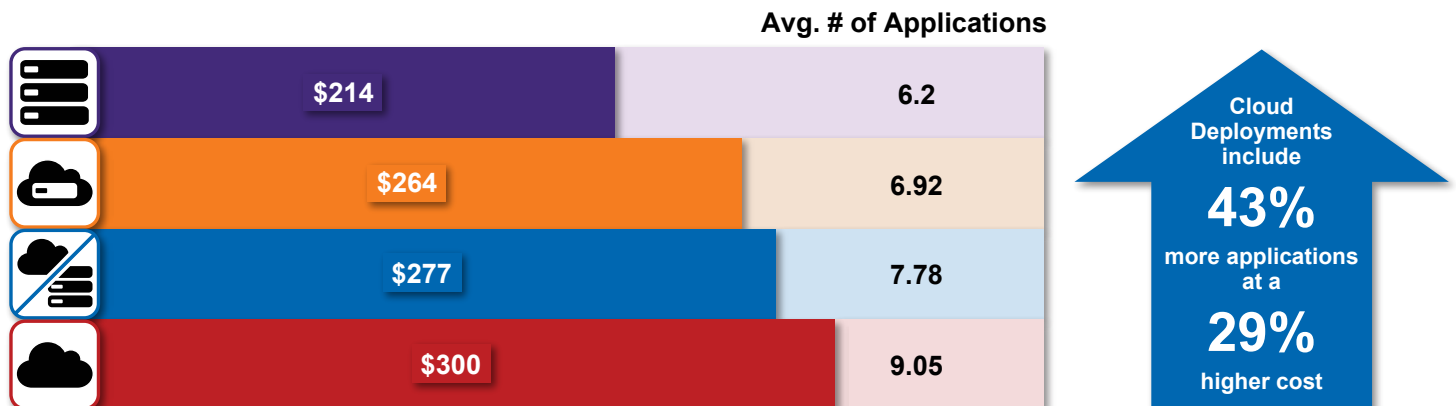
Organizations continue to replace On Premise environments with Cloud applications, and we see overall costs associated with the remaining On Premise deployments decrease as organizations stretch the lifespan of these systems. To justify losing the cost benefits realized from On Premise environments, many organizations require proof that a migration to the Cloud will be beneficial before committing to change. All Cloud organizations achieve these benefits through bundled applications; although All Cloud organizations pay on average 29% more per employee, 43% more applications are included in that cost. These averages are for all sizes: Small organizations' average per-employee cost will be slightly higher while Large organizations' per-employee cost will be slightly lower.

The applications included in organizations' overall HR Technology expenditures vary greatly. Most will include Core HR and Payroll, and some will include less popular applications, such as HR portals and HR Call Center/ Help Desk applications. These expenses may come out of non-HR budgets or be part of vendor contracts outside of the HR Technology scope; however, administering and resourcing the overall HR Technology stack still requires some level of organizational cost.

Figure 126: Applications Included in HR Technology Expenditures

Application	Percentage
Core HRMS	83%
Payroll	82%
Benefits	71%
Recruiting/TA	70%
Talent Management	62%
Onboarding	61%
Performance Management	57%
Workforce Management	49%
Compensation	47%
Learning & Development	40%
Workforce Intelligence	35%
Succession Management	33%
Historical Archive	22%
HR Portal	22%
Call Center/Help Desk	18%
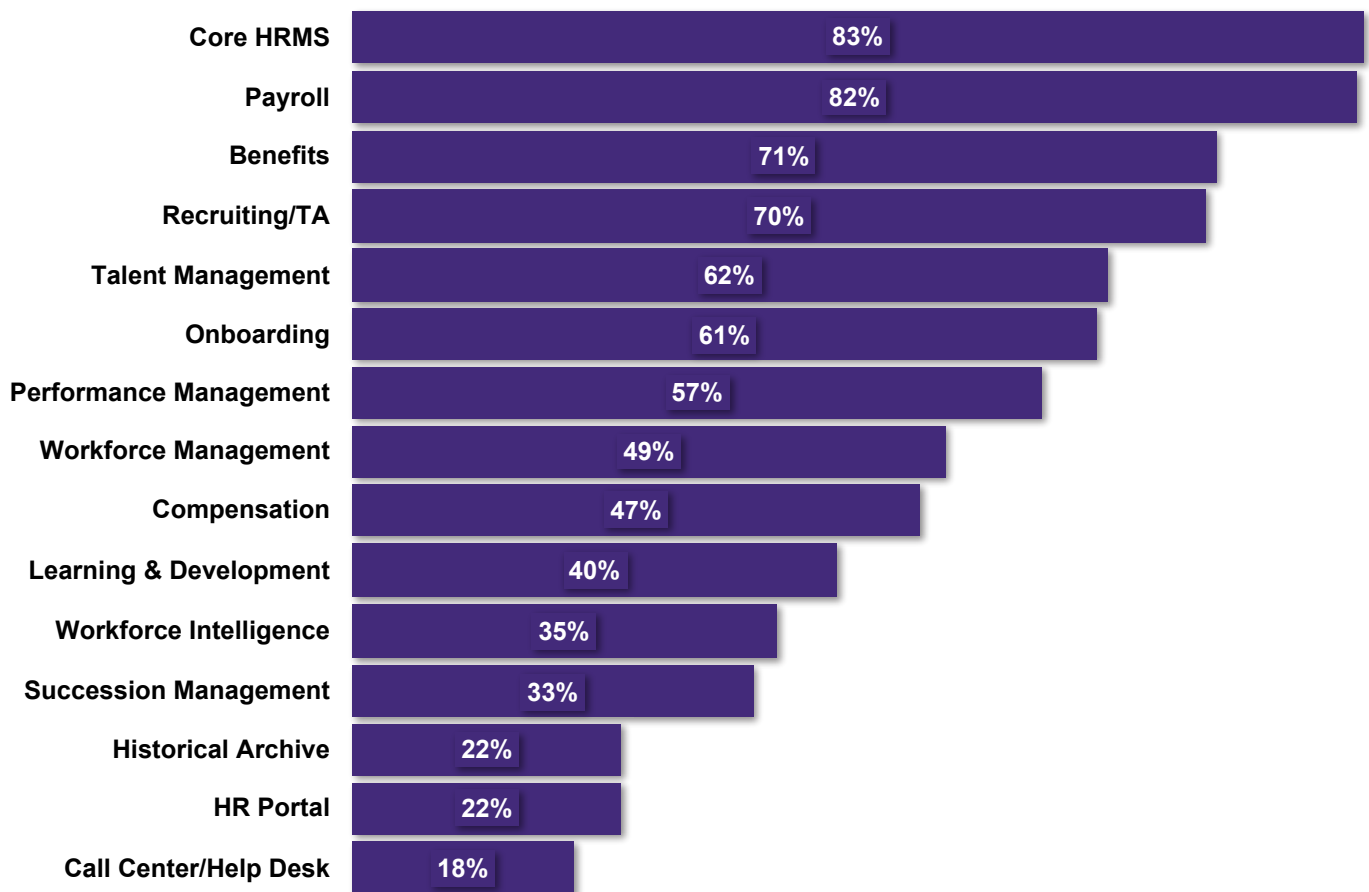
Ongoing Maintenance, Upgrades, and Updates

For Licensed/On Premise deployments, upgrades are still a major part of organizations' HR technology strategies. Over 70% of organizations are now on the most current release version; of the remaining organizations, 17% are planning to Upgrade at some point and 9% have No Plans to Upgrade their current On Premise environment.

Figure 127: On Premise Applications Upgrade Plans

	HRMS	Payroll	Workforce Management
No Plans to Upgrade	10%	8%	8%
Upgrade in Future	6%	6%	9%
Upgrade 12 Months	11%	10%	10%
Current Release	72%	76%	74%

■ Current Release   ■ Upgrade 12 Months   ■ Upgrade in Future   ■ No Plans to Upgrade
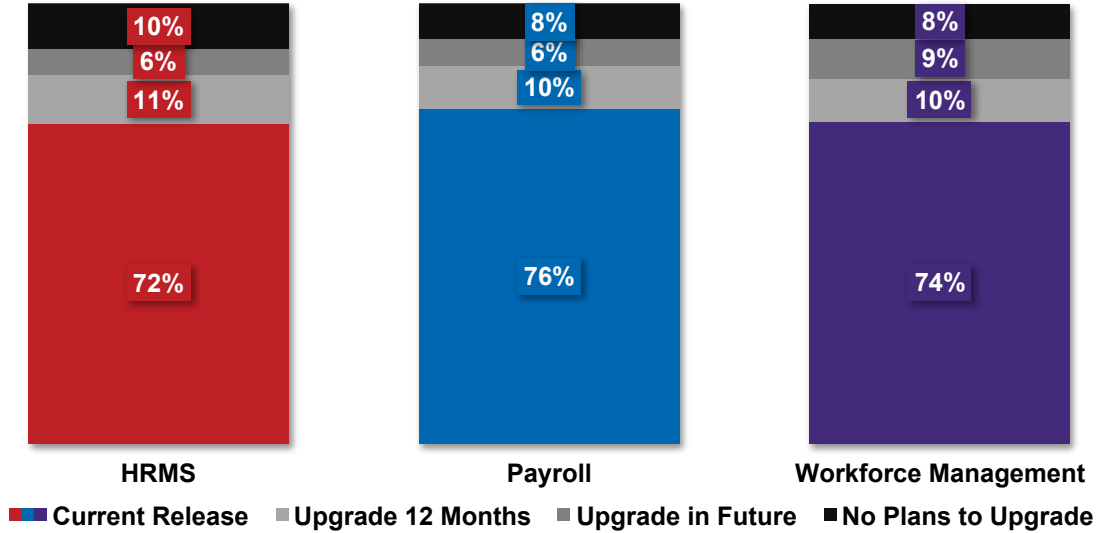
Timelines for Licensed/On Premise upgrades vary greatly by organization size. For Cloud/SaaS solutions, vendors generally release two-to-three major updates a year, along with some regular patch and minor system updates between major updates. Although Cloud/SaaS solutions require that updates be completed regularly, vendors have different approaches to rolling out major updates. Some provide various ways to test and model the impact of updates before organizations go live and will often release a major update with all features initially turned off, allowing clients to turn on preferred features at their own pace. Organizations can often forget features or ignore certain updated features that could provide better UX if turned on right away. Major SaaS updates still require anywhere from three to six weeks for testing and Change Management efforts. Small organizations may require more time for updates, as they often have fewer resources to apply to such efforts.

Figure 128: HRMS Updates and Upgrade Average Timelines by Size

HRMS Cloud Updates Average in # of Weeks

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7

Large = 6.55 Weeks
Medium = 4.62 Weeks
Small = 3.23 Weeks
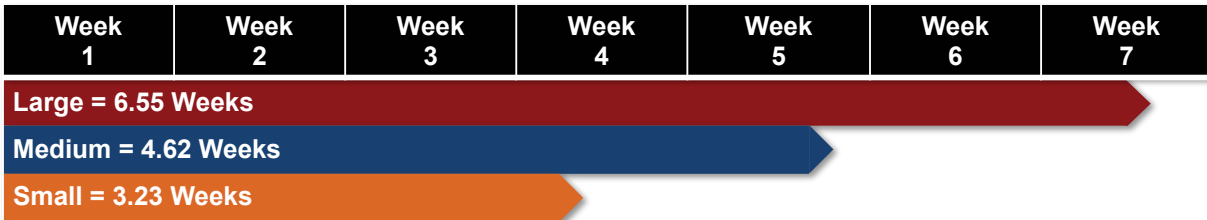
HRMS On Premise Upgrade Average in # of Months

JAN	FEB	MAR	APR	MAY	JUN

Large = 5.09 Months
Medium = 4.75 Months
Small = 5.09 Months
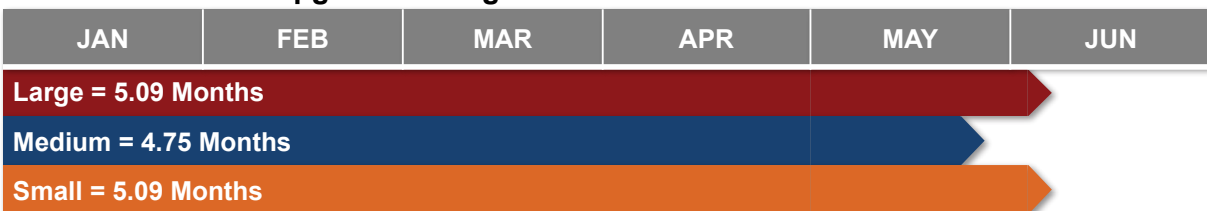
Measuring Implementation Outcomes

To better understand how organizations determined implementation success, we looked beyond simply getting an application up and running, and analyzed four outcome factors: Adoption, Resourcing, Budget, and Timeline. We found that although most organizations felt their implementations met expectations, the most likely outcome to fall short was Resourcing efforts. Finding resources to focus both on the implementation and the day-to-day work proved difficult—but additional planning in this area could meet implementation outcome expectations.

Figure 129: Implementation Outcomes

	Fell Short of Expectations	Met Expectations	Exceeded Expectations
Resourcing	34%	54%	12%
Timeline	26%	57%	18%
Budget	18%	66%	16%
Adoption	18%	66%	17%

■ Fell Short of Expectations ■ Met Expectations ■ Exceeded Expectations
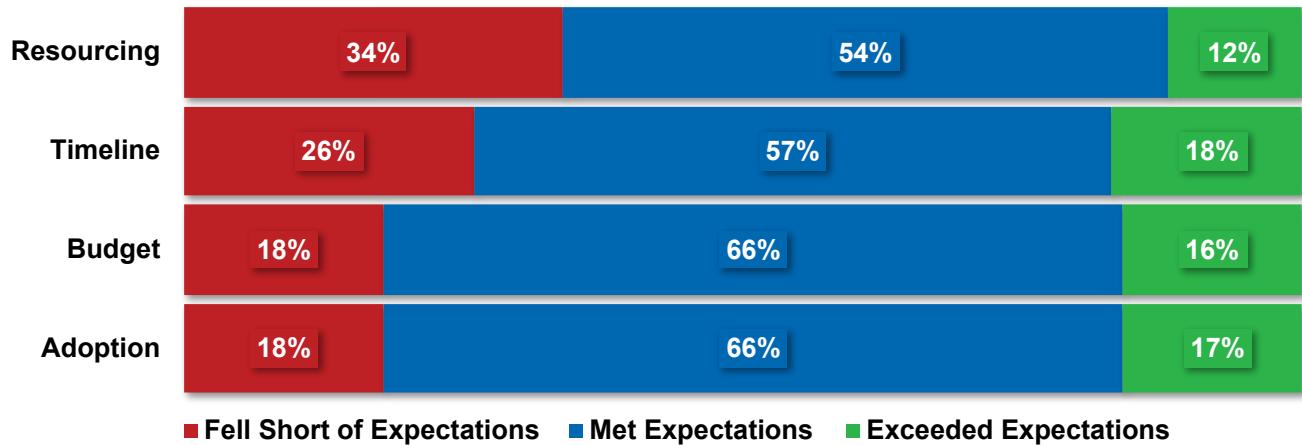
Organizations leveraging greater percentages of resources from their Systems Vendor reported improved outcomes in all areas, particularly in Adoption levels, while organizations that leveraged Third Party resources saw improvements in outcomes of their Timeline and Budget expectations. Resourcing outcomes were most likely to fall short of expectations for Large organizations, while Small and Medium organizations struggled with Timelines. Overall, Large organizations were the least likely to report that their implementations Exceeded Expectations in any outcome area at a rate 60% lower than Small organizations.

Voice of the Customer

Understanding the relationship that organizations are developing with their current vendor solution has become another lens through which to view the total HR Environment. We look at five major areas of customer feedback and analysis:

- **Application Gap Data.** For the last three years, we've tracked how effective various HR applications are at meeting their organization's basic business needs. This year, we added to our analysis and shared the percentage of organizations that selected each gap level for application areas where we had 20 or more responses.

- **Application User Experience and Vendor Satisfaction ratings.** Over 960 respondents ranked the quality of User Experience for commonly deployed applications (i.e., HRMS, primary TM, and primary WFM), as well as their satisfaction with each vendor. Many respondents provided feedback on multiple vendors.

- **Application Customer Complexity Chart.** A recurring theme throughout this section is that less-complex organizations have fewer needs and are generally more satisfied with their solutions than their more-complex counterparts. As a result, vendors serving the SMB community often have higher ratings than vendors serving the enterprise market. The complexity charts for Payroll, HRMS, WFM, and TM compare the average profile of individual organizations for individual solution areas and include the following categories:

  - Average employee size
  - Number of employees served per HR resource
  - Global percentage
  - Average number of countries in which global companies operate
  - Number of integrated Non-HR Systems
  - Voluntary turnover
  - Average system deployment time
  - Voluntary turnover percentage
  - Percentage with a Shared Services Center

  For HRMS solutions we also include the average implementation time in months, and for TM we include the percentage of organizations with that solution tracking Candidate Experience.

- **Vendor Satisfaction Feedback.** Respondents gave an aggregate view of the top three reasons for their Vendor Satisfaction and Dissatisfaction ratings for their HRMS applications.

Payroll Voice of the Customer

Payroll Application Gap Data

Although Payroll processes can be complex and include regulation requirements, 64% of organizations are comfortable that their current Payroll application meets their businesses needs Most of the Time, and 23% responded that it Always meets their needs. Paycor and UltiPro have the highest percentage of Always meeting customer needs, while Oracle HCM Cloud was the only application to have no respondents who selected anything below meeting needs Half of the Time.

Figure 130: Does your Primary Payroll Vendor Meet Your Current Organizational Needs?
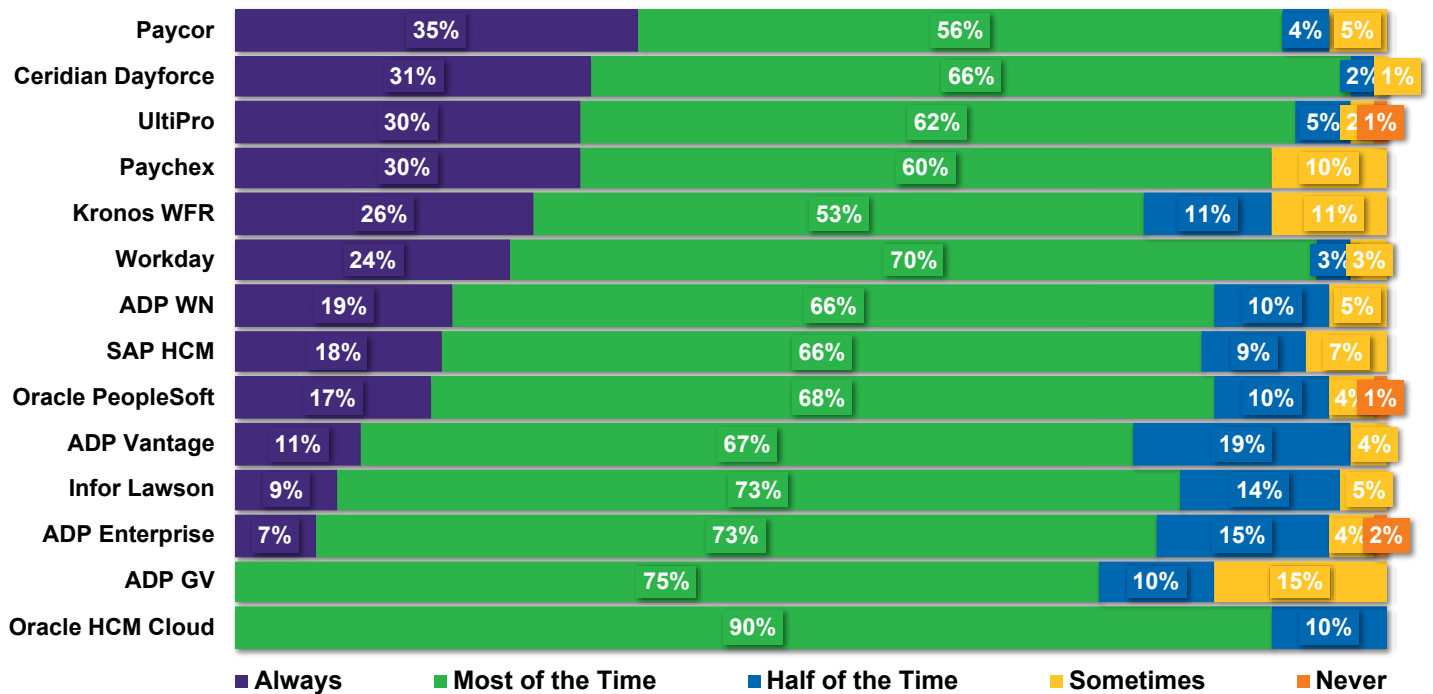
Vendor	Always	Most of the Time	Half of the Time	Sometimes	Never
Paycor	35%	56%	4%	5%	
Ceridian Dayforce	31%	66%		2%	1%
UltiPro	30%	62%	5%	2%	1%
Paychex	30%	60%		10%	
Kronos WFR	26%	53%	11%	11%	
Workday	24%	70%		3%	3%
ADP WN	19%	66%	10%	5%	
SAP HCM	18%	66%	9%	7%	
Oracle PeopleSoft	17%	68%	10%	4%	1%
ADP Vantage	11%	67%	19%	4%	
Infor Lawson	9%	73%	14%	5%	
ADP Enterprise	7%	73%	15%	4%	2%
ADP GV		75%	10%	15%	
Oracle HCM Cloud		90%	10%		

■ Always ■ Most of the Time ■ Half of the Time ■ Sometimes ■ Never

Payroll Customer Complexity Chart

The complexity chart compares the average profile of individual organizations for Payroll solution areas.

Figure 131: Payroll Customer Complexity Chart

Payroll Customer Complexity Chart	EE + Cont.*	EE/HR	% Global	# Countries*	# Int. Non-HR Systems*	Vol. Turnover*	Time owned*	% Shared Service Center
Aggregate	11,102	134	34%	21	1.24	22%	6.09	65%
SAP HCM	42,951	207	72%	25	1.68	17%	10.08	78%
Oracle HCM Cloud	39,651	136	62%	22	0.71	15%	2.55	36%
ADP Enterprise	38,418	154	66%	37	1.85	21%	8.58	75%
Oracle PeopleSoft	33,487	153	39%	31	2.37	18%	5.82	68%
ADP GV	32,069	74	82%	50	2.28	21%	7.06	94%
Kronos WFR	18,342	177	25%	31	1.07	21%	6.89	69%
Infor Lawson	17,642	149	13%	17	1.75	27%	9.90	75%
Workday	11,312	107	39%	18	1.73	21%	2.93	74%
ADP Vantage	7,879	94	64%	23	1.50	28%	5.82	86%
Ceridian Dayforce	7,340	168	33%	12	0.77	28%	3.04	55%
AD WN	5,042	96	39%	22	1.20	11%	6.20	79%
UltiPro	2,551	109	26%	8	0.76	21%	4.14	59%
Paycor	308	77	6%	10	0.14	20%	3.09	44%
Paychex	114	57	26%	4	0.00	22%	3.20	10%

* Average

Core HRMS Voice of the Customer

Core HRMS Application UX and Vendor Satisfaction Scores

For the HRMS vendor marketplace, once again no single vendor solution achieved an average rating that exceeded expectations in either vendor relationships or UX scores—although newer Cloud solutions continue to achieve higher satisfaction ratings, every solution has opportunities to continue to improve. Even for vendors with multiple solutions, respondents are more satisfied with the overall relationship for the newer Cloud solutions when compared to other deployment types; however, the overall difference is minimal with the lowest average UX score only 1.47 points lower than the highest score. In general, organizations report high levels of satisfaction with their current HRMS applications, and competition in this space has continued to increase.

Figure 132: HRMS Vendor Satisfaction and UX
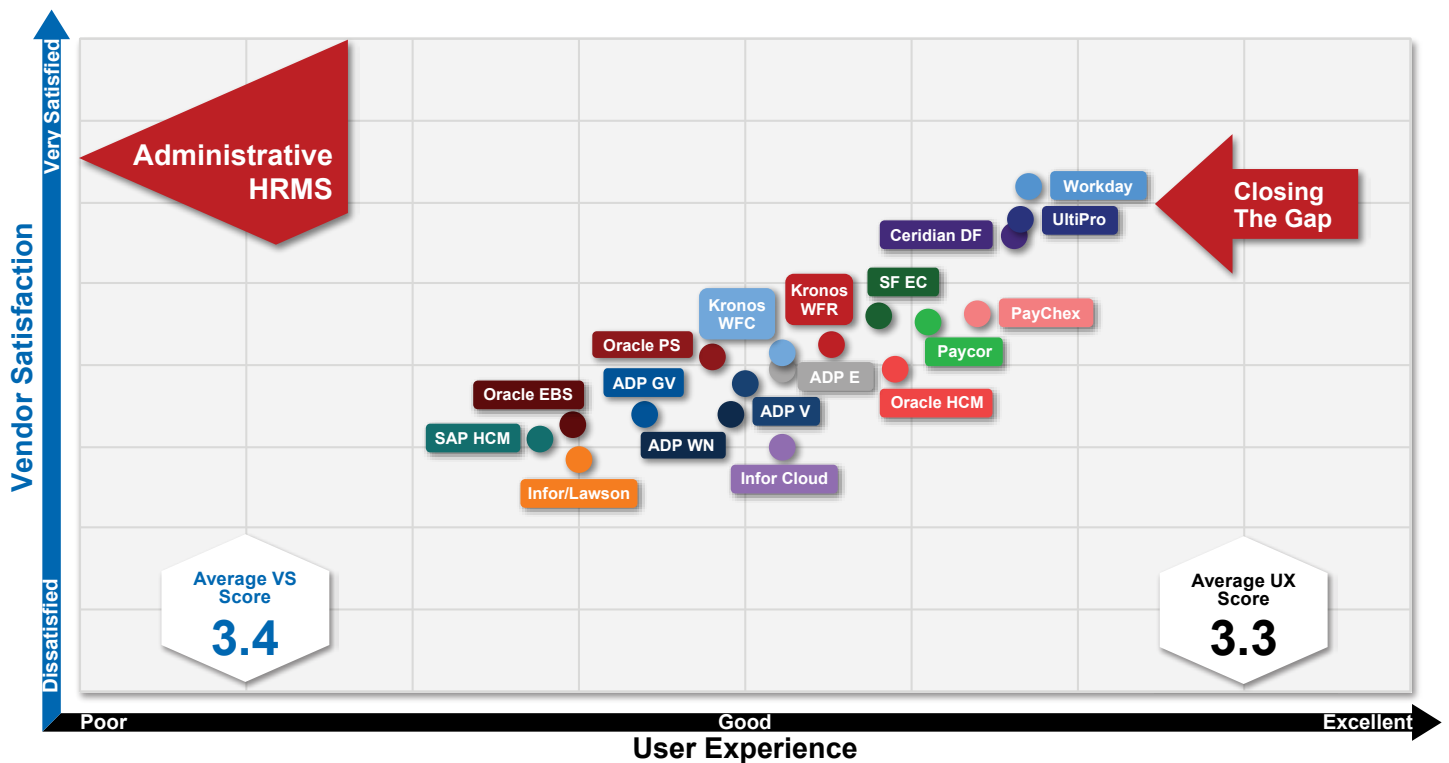
The HRMS Technology space exemplifies the value of competition in a market; the narrowing of the satisfaction gap isn't due to lower ratings at the top—in fact, the highest ranked organizations all saw slight increases in their overall ratings. New products are entering the space and existing vendors are continuing to innovate and drive market competition.

HRMS Application Gap Data

In terms of business needs, 61% of organizations are comfortable that their current HRMS application meets their needs Most of the Time and 17% report that it Always meets their needs. When we look at this gap data by specific applications, we see that Ceridian, Workday, and Kronos Workforce Ready have the highest percentage of Always meets needs, while ADP Vantage, Oracle HCM Cloud, and SAP SuccessFactors EC meet business needs Most of the Time at higher percentages.

Figure 133: Does your Primary HRMS Vendor Meet Your Current Organizational Needs?
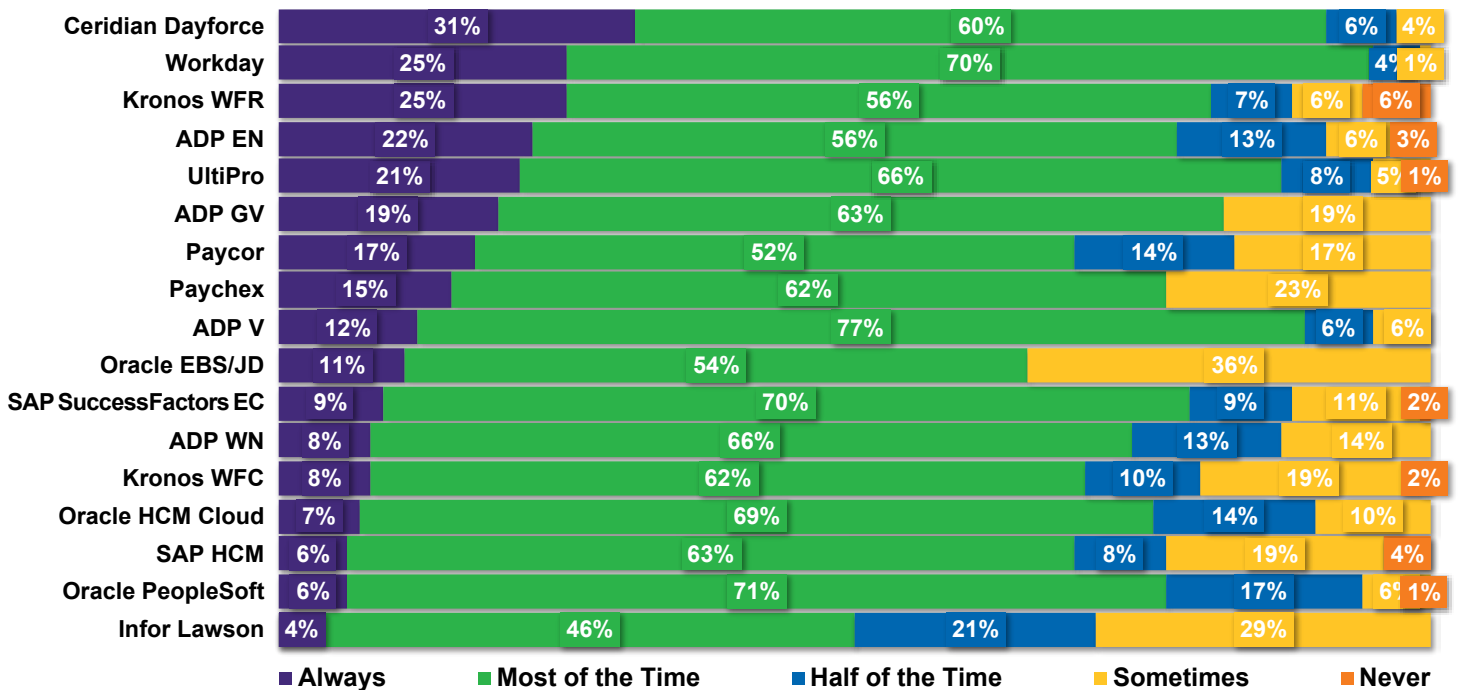
Vendor	Always	Most of the Time	Half of the Time	Sometimes	Never
Ceridian Dayforce	31%	60%	6%	4%	
Workday	25%	70%		4%	1%
Kronos WFR	25%	56%	7%	6%	6%
ADP EN	22%	56%	13%	6%	3%
UltiPro	21%	66%	8%	5%	1%
ADP GV	19%	63%		19%	
Paycor	17%	52%	14%	17%	
Paychex	15%	62%		23%	
ADP V	12%	77%		6%	6%
Oracle EBS/JD	11%	54%		36%	
SAP SuccessFactors EC	9%	70%	9%	11%	2%
ADP WN	8%	66%	13%	14%	
Kronos WFC	8%	62%	10%	19%	2%
Oracle HCM Cloud	7%	69%	14%	10%	
SAP HCM	6%	63%	8%	19%	4%
Oracle PeopleSoft	6%	71%	17%	6%	1%
Infor Lawson	4%	46%	21%	29%	

HRMS Customer Complexity Chart

The complexity chart compares the average profile of individual organizations for HRMS solution areas.

Figure 134: HRMS Customer Complexity Chart

HRMS Customer Complexity Chart	EE + Cont.*	EE/HR	% Global	# Countries*	# Int. Non-HR Systems*	Vol. Turnover*	Time owned*	% Shared Service Center	Imp. in Months*
Aggregate	14,467	136	36%	22	1.26	22%	5.61	65%	9.64
Oracle PeopleSoft	32,261	226	48%	29	2.10	17%	11.66	70%	23.60
ADP Enterprise	32,067	100	44%	24	1.42	26%	9.00	71%	16.00
SAP SF EC	31,160	194	73%	26	1.52	16%	3.78	80%	13.89
ADP GlobalView	27,305	63	78%	36	2.64	27%	5.57	92%	24.00
Oracle HCM Cloud	23,933	132	58%	18	1.39	19%	2.89	58%	12.22
ADP Vantage	22,964	98	52%	17	1.19	28%	5.89	87%	18.67
SAP HCM	21,880	189	70%	28	2.11	16%	10.15	89%	13.67
Infor Lawson	17,321	167	7%	2	1.90	28%	8.73	78%	N/A
Oracle EBS/JD	17,243	105	54%	21	2.35	24%	11.70	74%	16.67
Kronos WFC	15,122	122	37%	17	1.84	26%	8.21	74%	14.50
Workday	13,609	98	52%	26	1.82	21%	3.37	75%	11.06
ADP WN	6,225	91	30%	17	1.15	27%	5.49	78%	8.00
Ceridian Dayforce	5,263	157	36%	13	0.85	31%	3.07	59%	7.65
Kronos WFR	4,195	79	38%	14	1.36	27%	6.35	71%	N/A
UltiPro	2,559	114	26%	8	0.79	21%	4.39	62%	5.61
Paychex	554	58	23%	5	0.25	16%	3.63	25%	N/A
Paycor	363	84	9%	9	0.19	24%	2.58	44%	5.58

* Average

Workforce Management Voice of the Customer

Primary WFM Application UX and Vendor Satisfaction Scores

Organizations identified a primary Workforce Management (WFM) application—this usually includes the solution used for Time and Attendance or Scheduling by the largest percentage of their workforce population. The WFM vendor landscape includes many small niche solution providers, as well as a few established larger vendors. The market is poised for change, especially for vendors working to include the use of Predictive Analytics and Artificial Intelligence in their solutions. WFM is highly regulated, but this complexity provides viable opportunities for an organization to improve its bottom line by leveraging the depth of data captured in a Time and Attendance application or showing real operational savings and improved engagement from predictive scheduling.

Figure 135: Workforce Management Vendor Satisfaction and UX
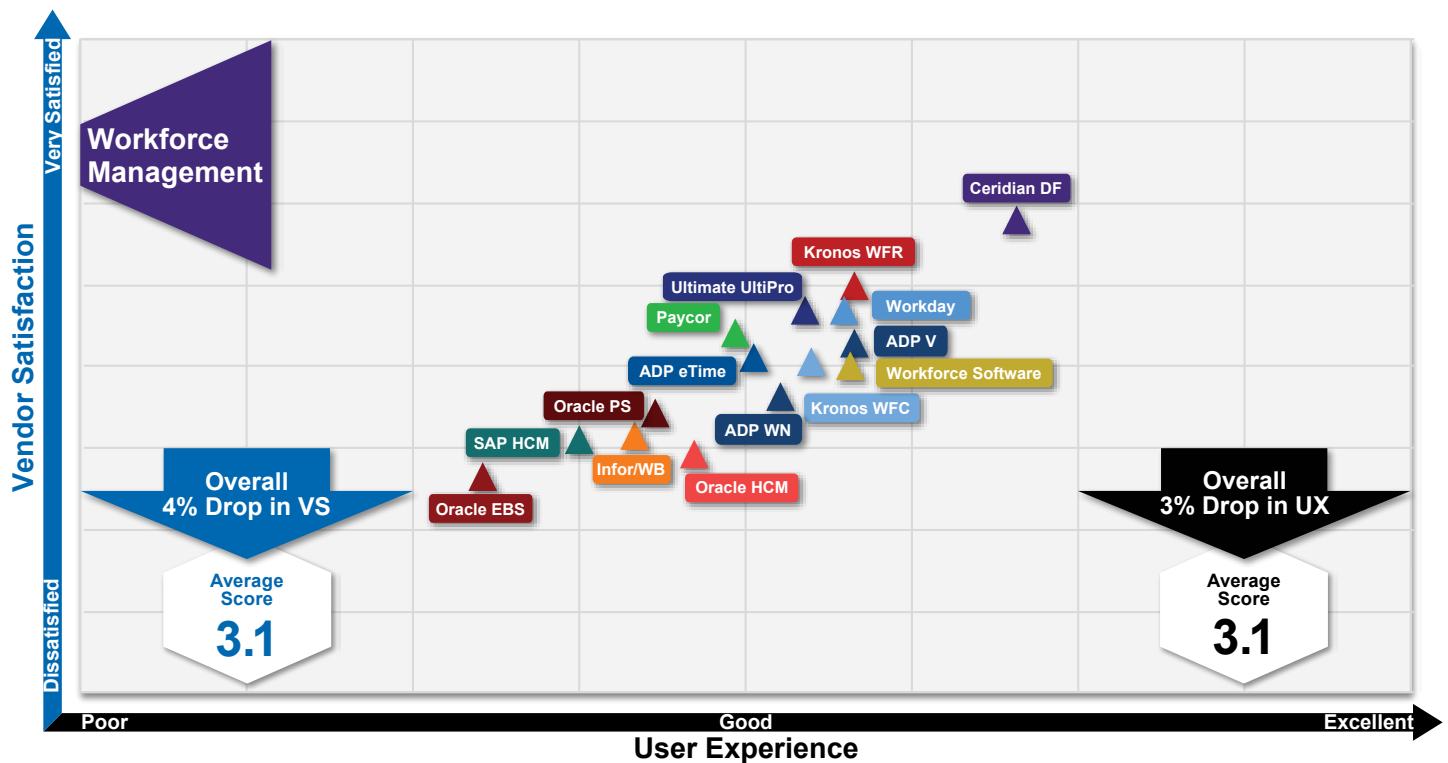
There has been little change over the last few years in UX and Vendor Satisfaction ratings for WFM applications, and this year was no exception with a mere 4% overall drop in UX and a 3% drop in Vendor Satisfaction ratings. However, we are seeing increases in average UX and Vendor Satisfaction ratings for some applications, including Ceridian Dayforce and Kronos Workforce Ready. This evolving space should see increased changes as new vendors emerge and enterprise systems look to improve existing solutions currently offering limited WFM capabilities.

WFM Application Gap Data

Overall, 60% of organizations are comfortable that their current WFM application meets their needs Most of the Time, and 18% responded that it Always meets their needs. When we look at this gap data by specific applications, we see that Workforce Software, Paycor, and Kronos Workforce Ready have the highest percentage of Always meets needs, while Oracle HCM Cloud, ADP eTime, Kronos Workforce Central, and UltiPro have higher percentages for Most of the Time.

Figure 136: Does your Primary WFM Vendor Meet Your Current Organizational Needs?
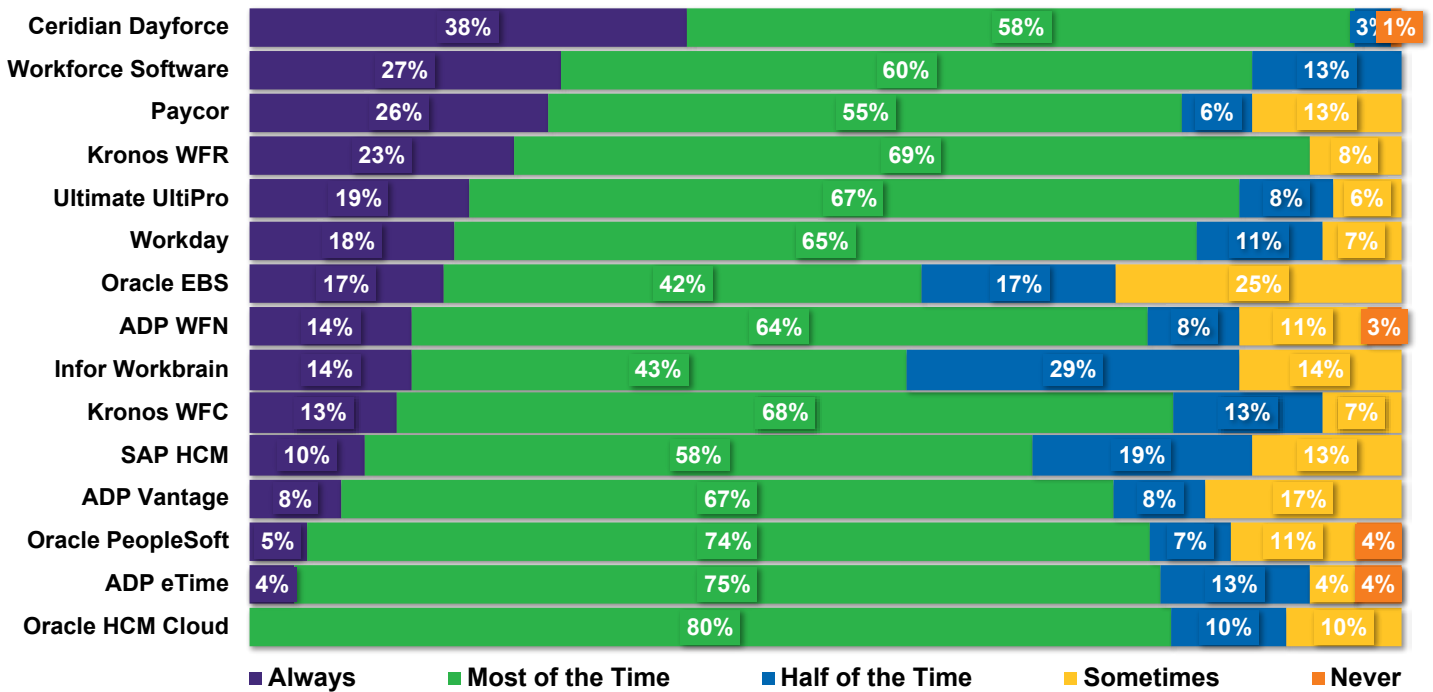
Vendor	Always	Most of the Time	Half of the Time	Sometimes	Never
Ceridian Dayforce	38%	58%	3%		1%
Workforce Software	27%	60%	13%		
Paycor	26%	55%	6%	13%	
Kronos WFR	23%	69%		8%	
Ultimate UltiPro	19%	67%	8%	6%	
Workday	18%	65%	11%	7%	
Oracle EBS	17%	42%	17%	25%	
ADP WFN	14%	64%	8%	11%	3%
Infor Workbrain	14%	43%	29%	14%	
Kronos WFC	13%	68%	13%	7%	
SAP HCM	10%	58%	19%	13%	
ADP Vantage	8%	67%	8%	17%	
Oracle PeopleSoft	5%	74%	7%	11%	4%
ADP eTime	4%	75%	13%	4%	4%
Oracle HCM Cloud		80%	10%	10%	

■ Always ■ Most of the Time ■ Half of the Time ■ Sometimes ■ Never

WFM Customer Complexity Chart

The complexity chart compares the average profile of individual organizations for WFM solution areas.

Figure 137: Workforce Management Customer Complexity Chart

| WFM Customer Complexity Chart	EE + Cont.*	EE/HR	% Global	# Countries*	# Int. Non-HR Systems*	Vol. Turnover*	Time Owned*	% Shared Service Center
Aggregate	11,423	130	34%	20	1.25	20%	5.21	64%
ADP eTime	32,939	548	58%	28	1.55	28%	6.65	77%
Kronos WFC	26,787	145	34%	20	1.67	20%	7.87	76%
Oracle PeopleSoft	25,248	152	46%	36	2.25	36%	10.32	63%
SAP HCM	25,138	98	73%	20	2.00	20%	8.55	82%
Workforce Software	18,342	154	47%	5	1.30	5%	5.82	56%
Infor Workbrain	17,682	137	14%	10	1.80	10%	9.17	80%
Oracle HCM Cloud	14,575	99	71%	19	2.25	19%	2.54	42%
Oracle EBS	14,549	143	60%	16	2.82	16%	9.77	83%
Workday	12,607	105	52%	24	1.86	24%	2.95	78%
ADP Vantage	7,185	105	25%	35	1.64	35%	6.00	91%
Kronos WFR	6,473	86	47%	22	0.57	22%	3.46	37%
Ceridian Dayforce	2,975	152	29%	11	0.73	11%	2.73	53%
Ultimate UltiPro	1,916	112	25%	6	0.72	6%	3.28	63%
ADP WFN	826	92	13%	10	0.55	10%	5.65	78%
Paycor	380	89	9%	10	0.18	10%	2.29	46%

* Average

Talent Management Voice of the Customer

Primary TM Application UX and Vendor Satisfaction Scores

Organizations identified a primary Talent Management (TM) application—this usually includes the application they are using to manage multiple key TM functions, such as Recruiting, Onboarding, Performance, or Learning. We put no restrictions on the solution they can select, as long as the vendor offers at least one TM module as part of their solution. Buyers of TM applications reported turbulence over the last few years, as many major vendors were acquired, focused on going public, or simply vanished from the marketplace.

Figure 138: Talent Management Vendor Satisfaction and UX
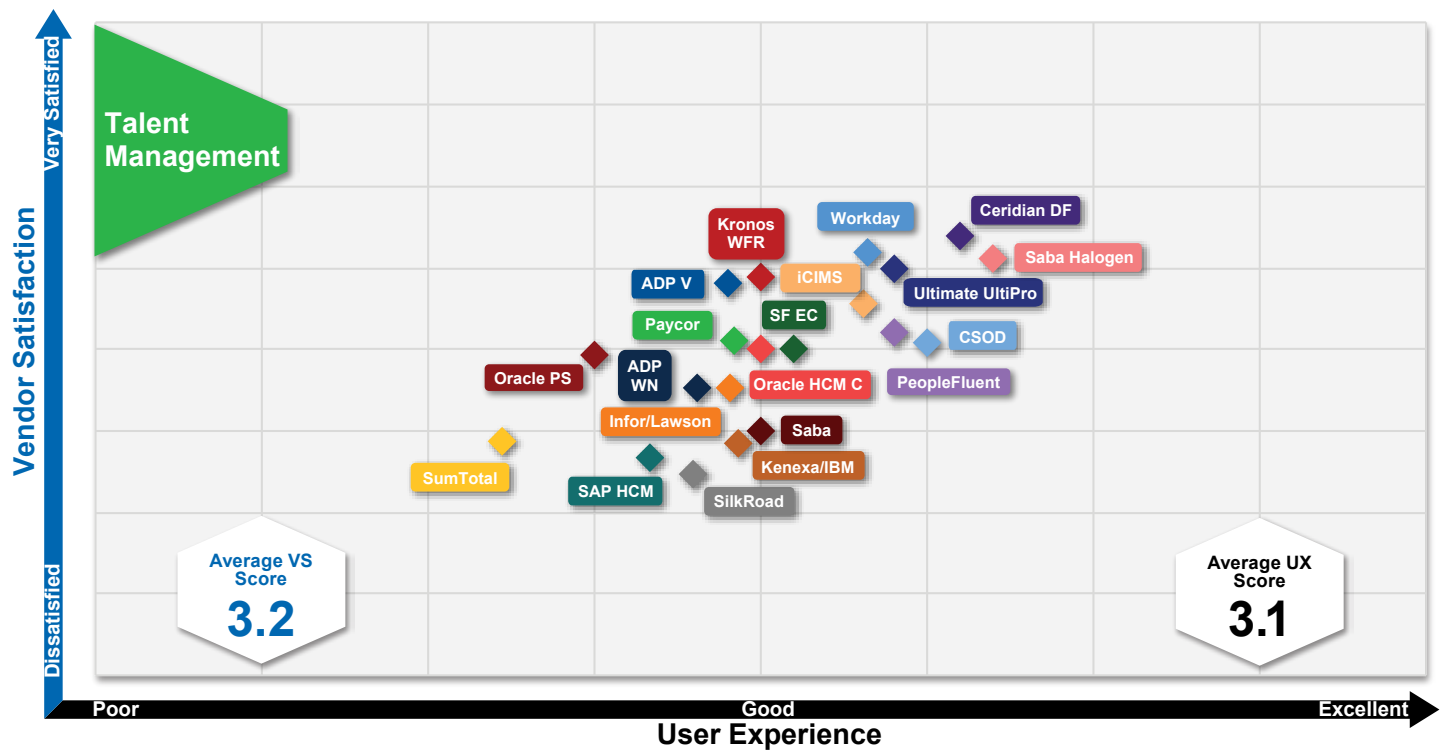
This vendor environment changes dramatically from year to year, but once again Enterprise Software scores are comparable to niche TM vendor average scores. Halogen and Ceridian Dayforce retained the highest UX and Vendor Satisfaction scores, closely followed by Cornerstone, Ultimate, and Workday. Overall, we saw a 3% drop in UX scores, as only a few organizations received higher aggregate scores than last year, including Kronos Workforce Software and Cornerstone. The TM space is ripe for disruption, and many organizations have shifted focus from rapid growth in this area to ongoing maintenance and measurement.

TM Application Gap Data

Talent Management has the most gaps of all of the application areas. In aggregate, 55% of organizations are comfortable that their current TM application meets their businesses needs Most of the Time, and 15% responded that it Always meets their needs. Ultimate UltiPro, Paycor, Ceridian Dayforce, and Oracle HCM Cloud have the highest percentage of Always meets needs, while Workday, Infor Lawson, and iCIMS more frequently meet their needs Most of the Time.

Figure 139: Does your Primary TM Vendor Meet Your Current Organizational Needs?
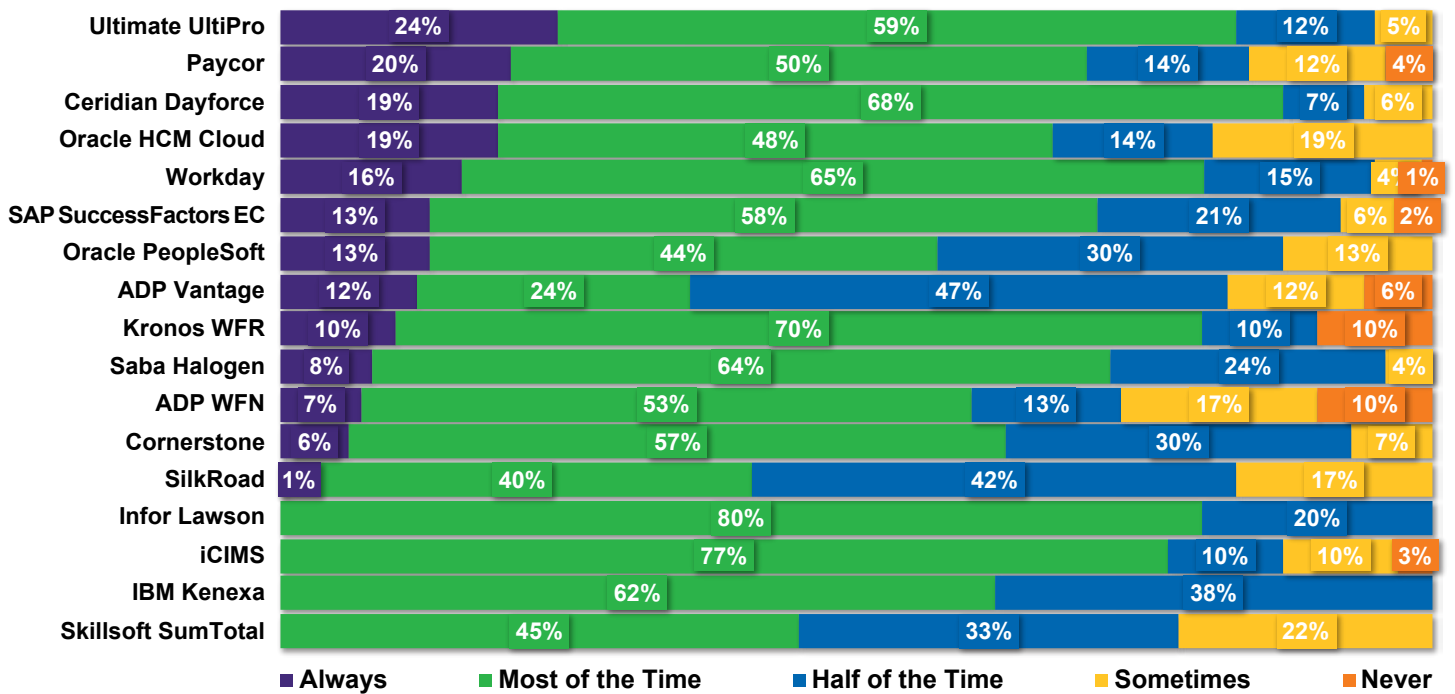
Vendor	Always	Most of the Time	Half of the Time	Sometimes	Never
Ultimate UltiPro	24%	59%	12%	5%	
Paycor	20%	50%	14%	12%	4%
Ceridian Dayforce	19%	68%	7%	6%	
Oracle HCM Cloud	19%	48%	14%	19%	
Workday	16%	65%	15%	4%	1%
SAP SuccessFactors EC	13%	58%	21%	6%	2%
Oracle PeopleSoft	13%	44%	30%	13%	
ADP Vantage	12%	24%	47%	12%	6%
Kronos WFR	10%	70%	10%		10%
Saba Halogen	8%	64%	24%	4%	
ADP WFN	7%	53%	13%	17%	10%
Cornerstone	6%	57%	30%	7%	
SilkRoad	1%	40%	42%	17%	
Infor Lawson		80%	20%		
iCIMS		77%	10%	10%	3%
IBM Kenexa		62%	38%		
Skillsoft SumTotal		45%	33%	22%	

■ **Always** ■ **Most of the Time** ■ **Half of the Time** ■ **Sometimes** ■ **Never**

TM Customer Complexity Chart

The complexity chart compares the average profile of individual organizations for TM solution areas.

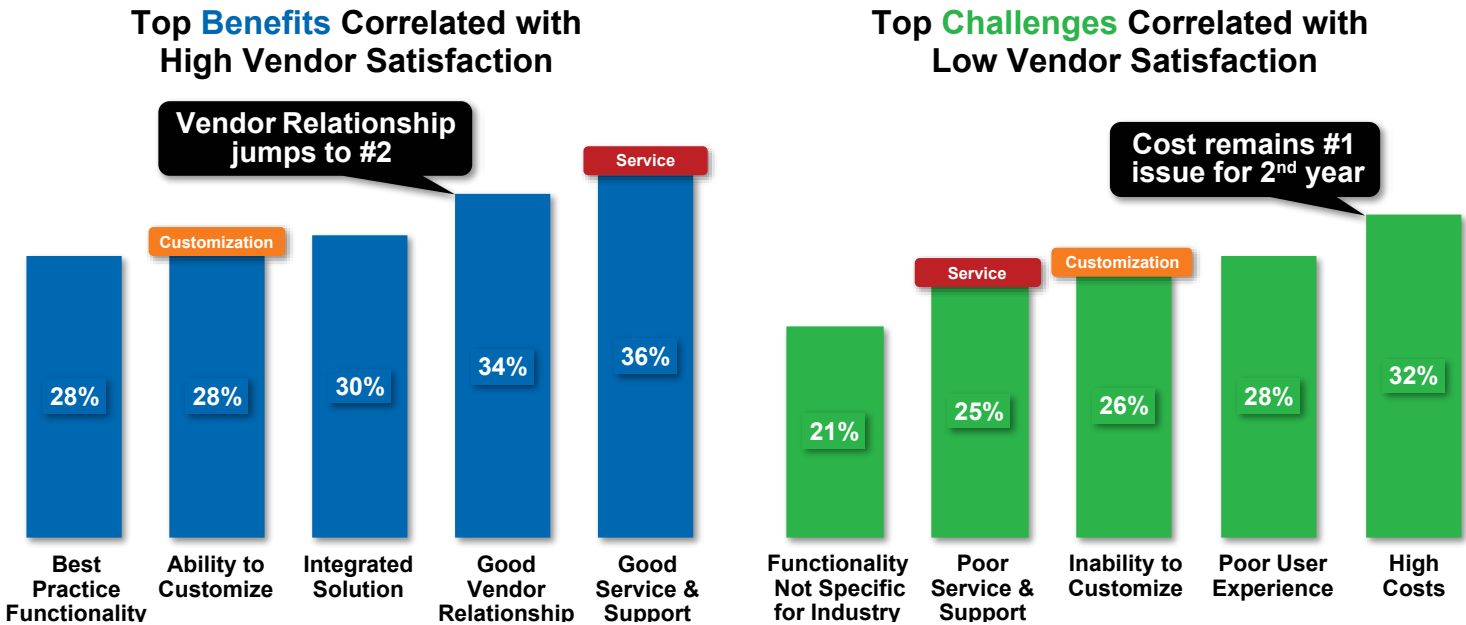**Figure 140: Talent Management Customer Complexity Chart**

TM Customer Complexity Chart	EE + Cont.*	EE/HR	% Global	# Countries*	# Int. Non-HR Systems*	Vol. Turnover*	Time Owned*	% Shared Service Center	% Track CXs
Aggregate	12,159	122	38%	21	1.33	21%	4.15	66%	38%
ADP Vantage	48,988	163	41%	26	1.47	26%	4.93	79%	33%
IBM Kenexa	43,159	135	63%	30	2.00	30%	4.71	100%	43%
Oracle HCM Cloud	38,597	167	41%	30	2.57	30%	2.82	76%	57%
SAP SF EC	32,997	257	61%	35	1.82	35%	4.45	89%	32%
Oracle PeopleSoft	31,273	299	43%	29	2.00	29%	10.50	68%	47%
Saba Halogen	20,243	102	40%	18	1.24	18%	4.88	65%	39%
Skillsoft SumTotal	19,579	172	67%	17	1.50	17%	7.11	75%	44%
iCIMS	17,251	142	33%	24	1.93	24%	5.04	73%	38%
Cornerstone	16,881	121	56%	24	1.51	24%	4.31	88%	51%
Workday	14,060	100	56%	27	1.83	27%	2.97	75%	45%
Infor Lawson	11,271	152	17%	19	2.00	19%	6.70	87%	75%
SilkRoad	4,364	106	36%	13	2.11	13%	5.64	60%	73%
ADP WFN	2,935	97	8%	21	76.00	21%	4.67	74%	19%
Ceridian Dayforce	2,045	140	25%	8	0.81	8%	2.54	59%	32%
Ultimate UltiPro	1,732	110	24%	4	0.76	4%	2.81	63%	37%
Kronos WFR	558	117	20%	6	0.83	6%	3.22	37%	30%
Paycor	247	79	14%	8	0.25	10%	2.17	31%	31%

* Average

Vendor and Buyers Opportunities

For further insights into Vendor Satisfaction, we asked organizations to provide details into which factors had the greatest impact on their ratings for each solution. When the HR community talks about the importance of UX and Vendor Satisfaction, it is almost always done with the hopes of influencing change in the market. No two vendors are alike, and each organization has something unique that it can offer to individual clients. Our goal in capturing and providing Vendor Satisfaction data is to provide a voice for the HR community in the areas for which they would like to see improvements from their solution providers. We find that most buyers and users are satisfied with their current solutions and relationships but would prefer to see one or two items adjusted.

Figure 141: High and Low Vendor Satisfaction Drivers

Top **Benefits** Correlated with High Vendor Satisfaction

- Best Practice Functionality: 28%
- Ability to Customize: 28% (Customization)
- Integrated Solution: 30%
- Good Vendor Relationship: 34% (Vendor Relationship jumps to #2)
- Good Service & Support: 36% (Service)

Top **Challenges** Correlated with Low Vendor Satisfaction

- Functionality Not Specific for Industry: 21%
- Poor Service & Support: 25% (Service)
- Inability to Customize: 26% (Customization)
- Poor User Experience: 28%
- High Costs: 32% (Cost remains #1 issue for 2nd year)

This year, our analyses of the key drivers associated with High and Low Vendor Satisfaction once again see High Cost as the number one challenge for organizations with low Vendor Satisfaction, while Good Service and Support remains the number one benefit for high Vendor Satisfaction. Our data still shows that organizations with the highest per-employee HR Technology costs generally have higher Vendor Satisfaction ratings, but they also expect a great deal more for that investment. Organizations are looking for more value from their systems and more services from their vendors; this may explain why vendors that have invested heavily in additional services are seeing increased Vendor Satisfaction scores.

Poor UX continues to be a challenge and often connects to integration issues, lack of Mobile, and older interfaces. Service & Support and Customization again appeared on both charts as key factors leading to both low and high Vendor Satisfaction ratings; although this could seem contradictory, traditional On Premise HRMS users are still very satisfied with their current vendor. Organizations investing heavily in customized On Premise solutions often value those Customizations as unique differentiators. For vendors focused on creating standardized Cloud HR technologies but hoping to convince On Premise organizations to head to the Cloud, the business case will need to include some way to recreate or find similar capabilities. Options include PaaS models or marketplaces filled with innovative partners. This trend emphasizes the current willingness of organizations to make their buying decisions on relationship factors, with the hopes of seeing functionality gaps addressed in future roadmaps; however, if vendors aren't meeting roadmap expectations, organizations may begin looking for replacements.

Vendor Solution Customer Feedback Details

We provide the top three benefits and challenges selected for each HRMS Vendor Solution by the largest overall percentage of their current customers. This is aggregate data, and a benefit to one organization may be a challenge to another. **Findings from this analysis are for Core HRMS solution providers only.**

Figure 142: Percentage of Vendor Benefits and Challenges Selected by End-Users

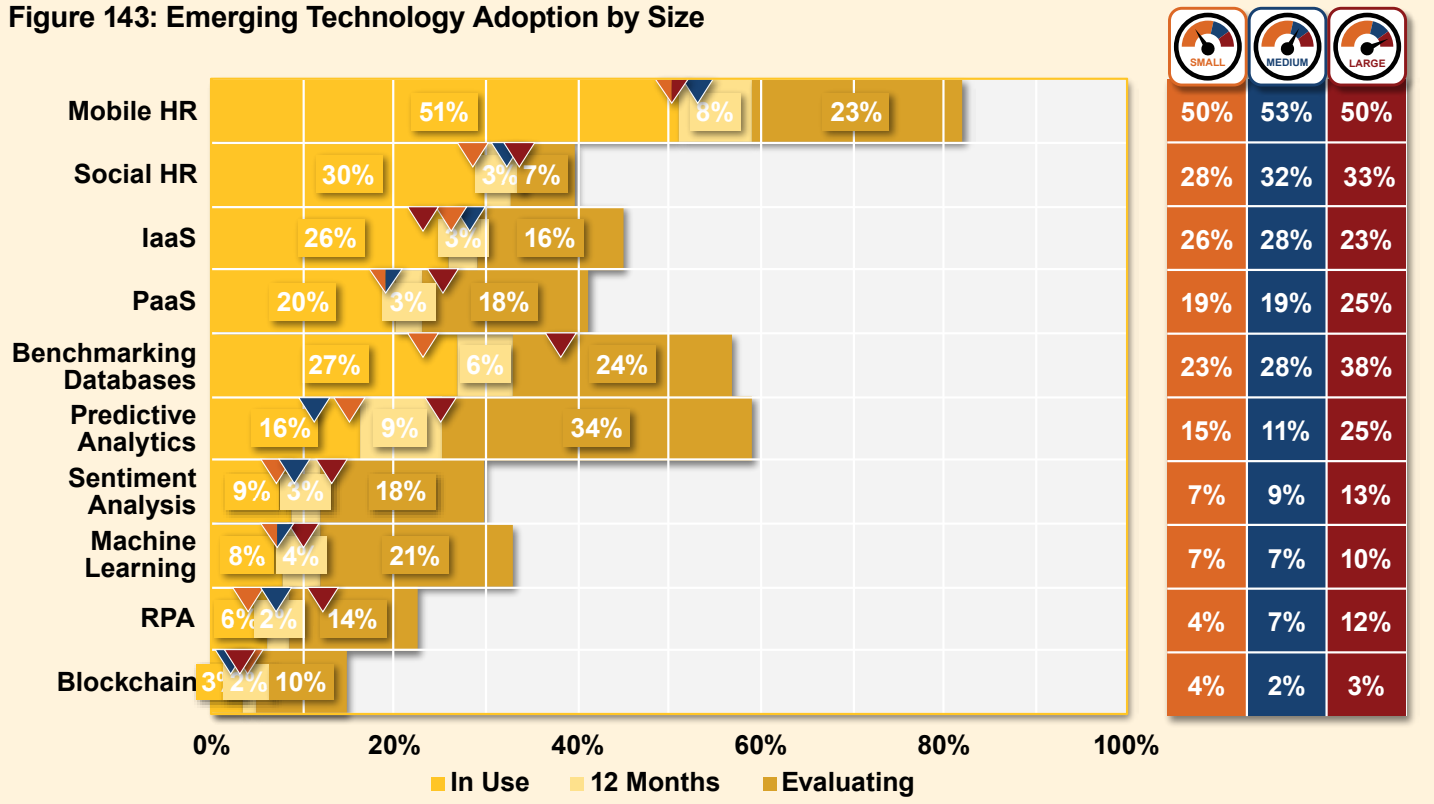| Vendor	HCM Top 3 Benefits	% Chosen	HCM Top 3 Challenges	% Chosen
ADP Enterprise	Good service and support	48%	Poor service and support	39%
	Good vendor relationship	39%	Lack of innovation	32%
	Ability to customize	35%	High costs	26%
ADP Global View	Global functionality	42%	Poor service and support	64%
	Good service and support	33%	Poor user experience	36%
	Good vendor relationship	33%	Strained vendor relationship	27%
ADP Vantage	Good service and support	50%	Poor service and support	37%
	Good vendor relationship	44%	Lack of global functionality	37%
	Positive user experience	33%	Inability to customize	32%
ADP Workforce Now	Integrated solution	38%	Poor service and support	55%
	Good vendor relationship	29%	Inability to customize	28%
	Good service and support	27%	Poor user experience	28%
Ceridian Dayforce HCM	Good vendor relationship	49%	High costs	37%
	Good service and support	42%	Poor service and support	32%
	Integrated solution	40%	Functionality not specific for industry	29%
Infor/Lawson	Industry specific functionality	35%	Poor user experience	58%
	Good vendor relationship	30%	Lack of innovation	50%
	Ability to customize	30%	Not an integrated solution	29%
Kronos Workforce Central	Good service and support	42%	High costs	34%
	Good vendor relationship	35%	Poor user experience	30%
	Best practice functionality	25%	Lack of innovation	26%
Kronos Workforce Ready/SaaShr	Integrated solution	35%	Inability to customize	36%
	Low costs	29%	Poor user experience	29%
	Good service and support	24%	Functionality not specific for industry	29%
Oracle HCM Cloud/Fusion	Best practice functionality	41%	Poor user experience	37%
	Good vendor relationship	41%	Poor service and support	37%
	Global functionality	31%	High costs	33%
Oracle EBS	Ability to customize	42%	Poor user experience	56%
	Best practice functionality	42%	Lack of innovation	36%
	Ease of configuration	38%	Poor service and support	28%
Oracle PeopleSoft Enterprise	Ability to customize	63%	Poor user experience	51%
	Integrated solution	34%	Lack of innovation	39%
	Good vendor relationship	30%	High costs	36%
Paychex	Low costs	50%	Inability to customize	63%
	Good service and support	50%	Functionality not specific for industry	38%
	Good vendor relationship	38%	Poor service and support	38%
Paycor	Good service and support	51%	Inability to customize	58%
	Good vendor relationship	40%	Poor service and support	36%
	Positive user experience	36%	Poor user experience	31%
SAP HCM	Ability to customize	44%	Poor user experience	58%
	Integrated solution	34%	High costs	54%
	Good vendor relationship	32%	Lack of innovation	42%
SAP SuccessFactors Employee Central	Best practice functionality	43%	High costs	38%
	Global functionality	37%	Inability to customize	29%
	Good vendor relationship	31%	Poor service and support	24%
Ultimate UltiPro	Good service and support	56%	Inability to customize	36%
	Good vendor relationship	47%	High costs	32%
	Integrated solution	37%	Functionality not specific for industry	32%
Workday	Best practice functionality	44%	High costs	55%
	Positive user experience	40%	Inability to customize	34%
	Ease of configuration	37%	Functionality not specific for industry	28%

Emerging Technologies and Innovations

Each year, we track emerging HR technologies and topics that may impact your organization's enterprise HR Technology decisions but are still in the earliest stages of adoption. This year, we looked at the following categories:

- Social and Mobile HR Technology Trends
- Storage and Application Development:
  - IaaS
  - PaaS
- Emergence of Intelligent Systems: Fact and Fiction?
  - Benchmarking Databases
  - Predictive Analytics
  - Sentiment Analysis
  - Machine Learning
  - Robotic Process Automation (RPA)
 - Blockchain Technology
- Total Enterprise Cloud Movement

New this year, we identified a group of Emerging Technology organizations that are leveraging higher-than-average percentages of Emerging Technology applications when compared to our aggregate respondents. These Emerging Tech organizations must be using Mobile to access their HR technology, be in the Top 10% of Social tools use, and have two or more Emerging Technology applications In Use Today.

Figure 143: Emerging Technology Adoption by Size

	SMALL	MEDIUM	LARGE
Mobile HR (In Use 51%, 12 Months 8%, Evaluating 23%)	50%	53%	50%
Social HR (30%, 3%, 7%)	28%	32%	33%
IaaS (26%, 3%, 16%)	26%	28%	23%
PaaS (20%, 3%, 18%)	19%	19%	25%
Benchmarking Databases (27%, 6%, 24%)	23%	28%	38%
Predictive Analytics (16%, 9%, 34%)	15%	11%	25%
Sentiment Analysis (9%, 3%, 18%)	7%	9%	13%
Machine Learning (8%, 4%, 21%)	7%	7%	10%
RPA (6%, 2%, 14%)	4%	7%	12%
Blockchain (3%, 2%, 10%)	4%	2%	3%

Legend: In Use, 12 Months, Evaluating

When looking at these Emerging Technology organizations, we found that they roll out HR applications to a greater percentage of employees and managers throughout their organization than Not Emerging Technology organizations. On average, they roll out Employee Self Service and Manager Self Service to 15% more of their workforce than Not Emerging Technology organizations. This increases to 50% more when rolling out Workforce Intelligence applications and available workforce data, providing extensive access for broad workforce decisions and personal employee reflections.

Figure 144: Rollout of Emerging Technology Applications
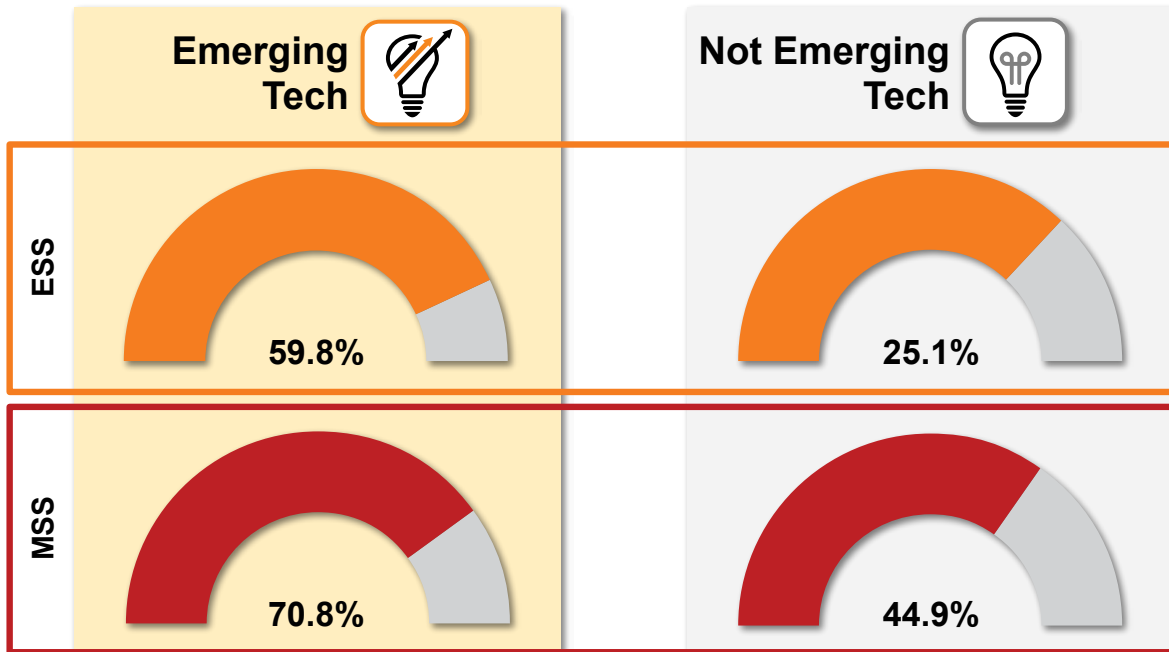
Mobile HR, No Longer Emerging

Mobile technology adoption is becoming universal and a large part of how individuals interact and communicate with the world around them. For organizations, Mobile devices facilitate workforce connections and go beyond phones in a world where tablets, headsets, Wearables, and even Internet of Things (IoT) technologies are all part of the Mobile conversation. This allows organizations to think less about any one device and more about the optimization of information and communication for multiple delivery devices in a wireless environment.

This year, Mobile-enabled HR has reached the tipping point, with over 50% of organizations now deploying some level of Mobile HR application. If organizations have not deployed Mobile HR at this point, they are late to the game. All employees obtain a great deal of information on their Mobile devices, and a lack of investment in this area will reduce HR's ability to reach them. The gains in efficiency obtained by early adopters to Mobile HR are decreasing, but the costs of not having Mobile access are increasing. These costs include higher inefficiency, poor perception of HR, and lower adoption of HR applications.

Figure 145: Mobile-Enabled HR Technology Use

13% 2014
23% 2015
39% 2016
45% 2017
51% 2018
59% 12 Months
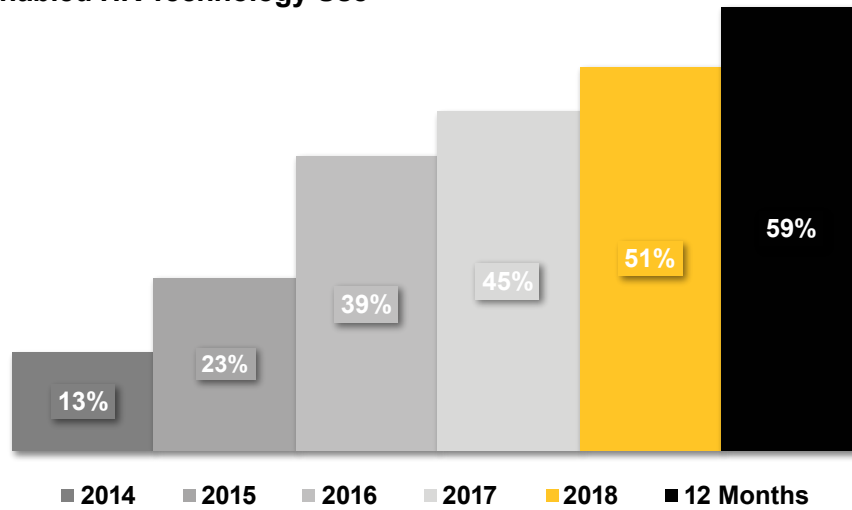
Looking at Mobile-enabled HR technology adoption by individual product areas provides additional insight into the approaches taken towards Mobile technology deployment. The most frequently adopted Mobile HR processes are in the areas of HR Management/Recordkeeping and Time and Labor, followed by Leave Management, Payroll, and Talent Acquisition. The areas that should see the largest adoption increases over the next 12 months are Payroll, Performance Management, Learning, and Time and Attendance. On average, organizations have five Mobile-enabled HR technology applications today, with plans to increase to six Mobile-enabled applications within the next 12 months.

Figure 146: Mobile-Enabled HR Applications

|	HR Application	% Using Mobile Today	% Planned Mobile 12 Months
1	Core HRMS	63%	72%
2	Time and Attendance	61%	73%
3	Payroll	56%	61%
4	Absence/Leave	47%	58%
5	Recruiting/Talent Acquisition	40%	53%
6	Onboarding	33%	48%
7	Talent Management	29%	43%
8	Performance Management	27%	42%
9	Portal Applications	24%	29%
10	Learning Management	22%	34%
11	Workforce Scheduling	19%	29%
12	Call Center/Help Desk	15%	19%
13	Succession Planning/Succession Management	10%	21%
14	Workforce Intelligence	8%	19%

Social Applications in HR

Adoption of Social Media technology as a strategic HR solution continues to experience steady overall growth. Applications such as LinkedIn, Facebook, and Collaboration Tools have already reached 50% adoption in our aggregate respondents. Candidate perceptions are heavily swayed by Social media interactions and enterprise brands are constantly being judged in the marketplace by their Social strategy—or lack thereof. A marketing strategy addressing the use of Social applications within an organization is crucial, as is a plan for dealing with inevitable negative perceptions and/or information on Social media. On average, organizations are using 2.8 Social applications on a regular basis in their HR operations.

Figure 147: Average Number of Social Applications in Use by Size
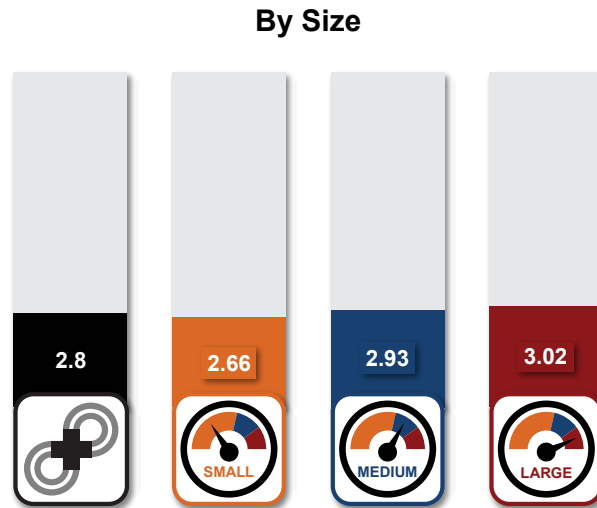
Size plays a major factor in the Strategic use of Social applications: Large organizations are more likely to use formal Collaboration and Corporate Networking applications, while Small organizations are more likely to invest time in Facebook and Twitter. Companies ignoring Social media as a critical communication method do so at their peril. The strategic use of Social tools should go beyond Recruiting and expand to general HR communication practices including information about Benefits, Employee Assistance Programs (EAP), policies, and engagement.

Figure 148: Strategic Use of Traditional Social Applications by Size
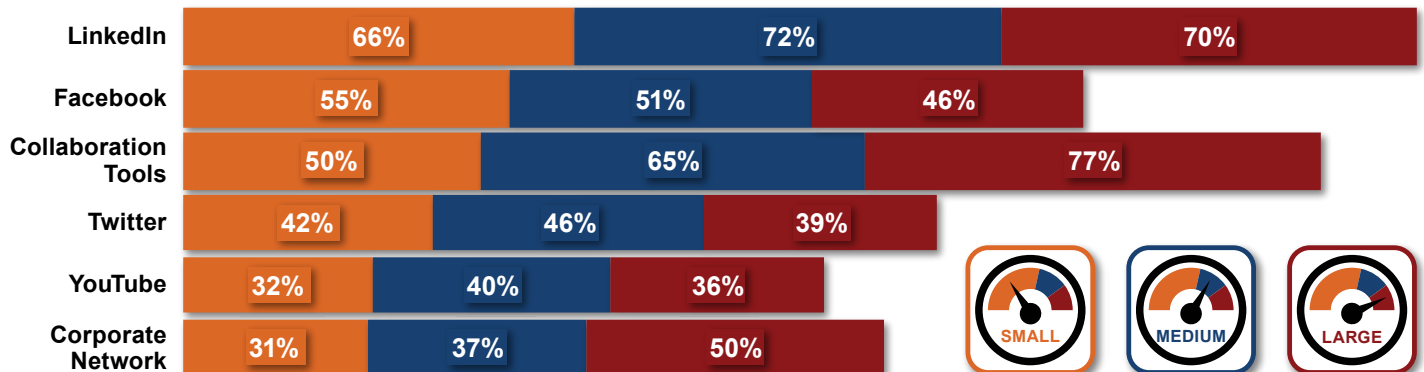
A very small percentage of organizations in our aggregate data set are strategically using applications such as Instagram, Snapchat, Pinterest, WhatsApp, and Tumblr, but we should note that all of these applications increased in overall adoption from last year.
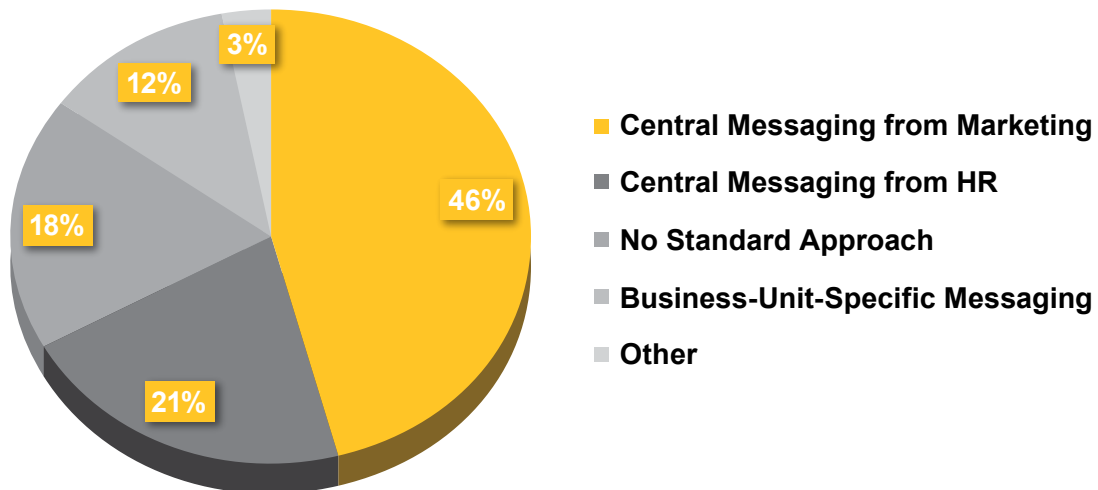
Figure 149: Strategic Use of Emerging Social Applications by Size
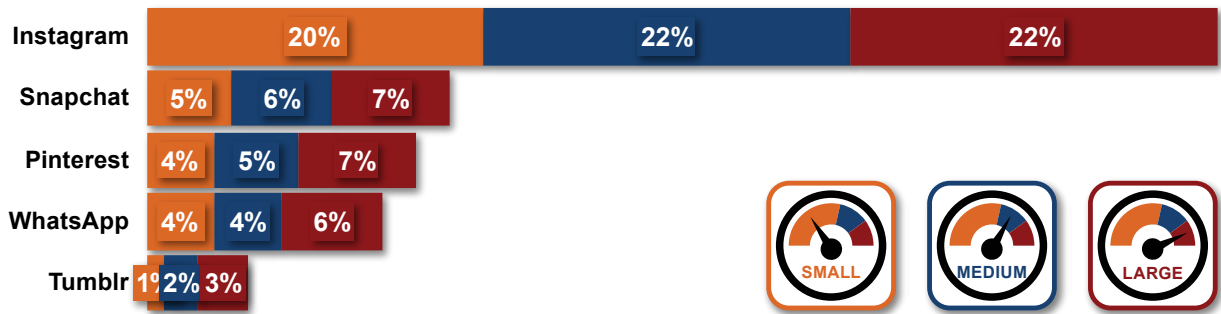
Social Application use varies greatly by region: North American organizations are 30% more likely to use Facebook and twice as likely to use Instagram strategically, while WhatsApp is five times more likely to be used strategically in APAC and two-and-a-half times more likely to be used in EMEA.

When it comes to managing the constant stream of Social content necessary to strategically use a Social application effectively, 46% of organizations reported that this messaging was managed centrally through marketing, while 18% stated they had No Standard Approach.

Figure 150: Social Content Messaging Approach

- Central Messaging from Marketing
- Central Messaging from HR
- No Standard Approach
- Business-Unit-Specific Messaging
- Other

Storage and Application Development

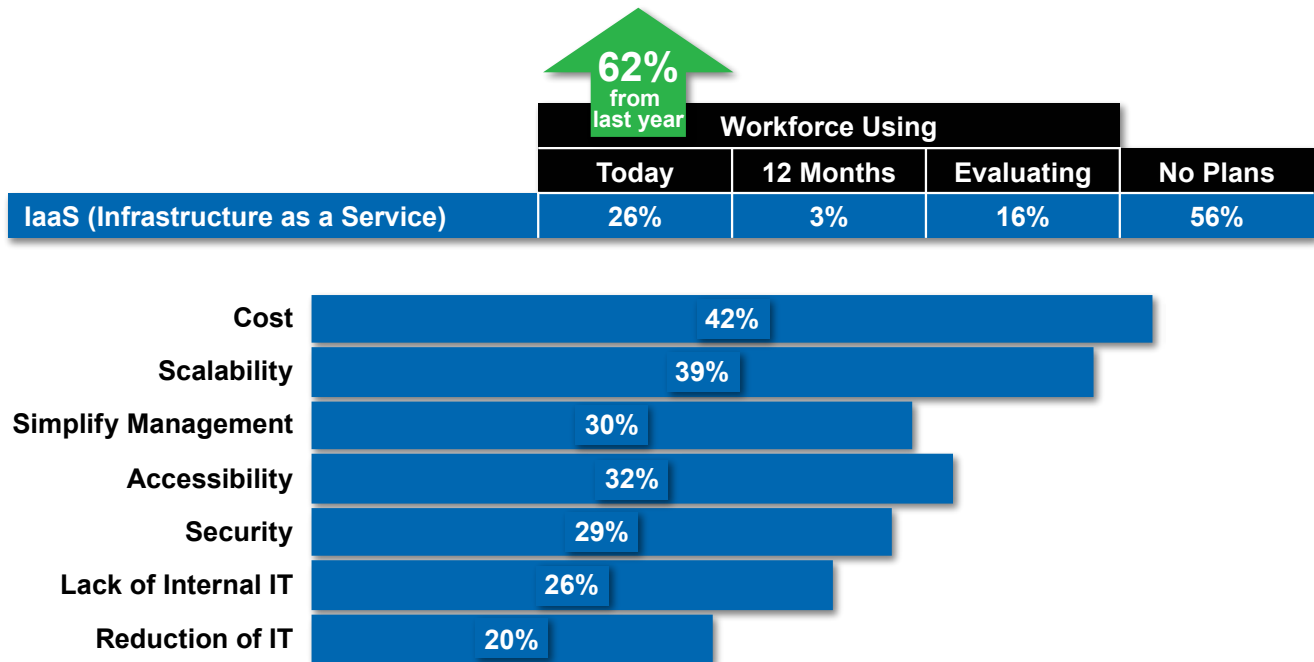## Infrastructure as a Service (IaaS)

Traditionally, an organization's IT platform strategy has been the sole purview of the CIO or Technology department; however, as overall adoption of Cloud applications has increased, an organization's platform strategy becomes a major topic for organizations dealing with technology selections, integration strategies, or data privacy issues.

As the overall cost of data storage continues to drop and expectations increase for continuously available and secure access to Cloud solutions and supporting data, IT leaders and vendors alike are realizing that maintaining the infrastructure and hardware required

> **IaaS:** a category of Cloud computing that provides virtualized resources such as servers, storage, network and operating systems – as an on-demand service rather than purchasing physical servers, software, datacenter space, or network equipment.

for Cloud (or Cloud-like environments) is an expense they no longer care to incur. More importantly, as their system adoptions increase, they can no longer scale fast enough to meet the 24x7 demands.

Large global public hosting organizations such as Amazon Web Services (AWS), Google Computer Engine, Microsoft Azure, and Oracle Cloud Platforms now offer scalability, extensibility, support, security, and unimaginable levels of space at a fraction of the cost of maintaining an organization's own data center. Moving an On Premise application to one of these public Cloud environments is known as Infrastructure as a Services (IaaS). For the last three years, we have tracked the growth of IaaS for the use of HR applications, and this year we've seen a considerable increase in the percentage of organizations using this platform tool.

Figure 151: IaaS Adoption and Top Reasons for Using

	Today	12 Months	Evaluating	No Plans
IaaS (Infrastructure as a Service)	26%	3%	16%	56%

(62% from last year; Workforce Using)

Reason	
Cost	42%
Scalability	39%
Simplify Management	30%
Accessibility	32%
Security	29%
Lack of Internal IT	26%
Reduction of IT	20%

Currently, 26% of organizations are licensing an IaaS environment for their organization to be used for HR applications—a 62% increase from 2017. Organizations reported that their top value propositions of leveraging IaaS environments included lower costs and higher levels of scalability.
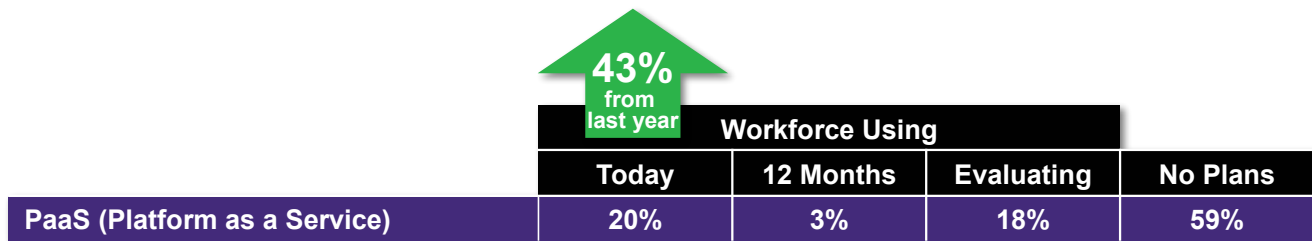
Platform as a Service (PaaS)

The modern incarnation of PaaS was pioneered by organizations like Google with their App Engines and development toolkits. It increases the development of third-party applications available through existing specific browser and technology infrastructure. There are multiple forms of Public, Private, and Hybrid PaaS environments, but a more common model for HR technology is rapid development PaaS, made famous by Saleforce.com and its Force.com PaaS environment. This was designed to provide licensed developers with access to the platform and tools needed to quickly create complex multi-tenant applications. PaaS allows a vendor the ability to offer customizations (industry- or business-need specific) to a SaaS/Cloud environment.

Examples of HR PaaS environments exist today with Oracle, SAP, Cornerstone, and Workday. Other organizations, such as Ultimate, ADP, and Ceridian, choose to control development and integration on their platforms and instead work with carefully selected partners to create large marketplaces where

> **PaaS:** a category of Cloud computing services that provides a platform allowing customers to develop, run, and manage applications without the complexity of building and maintaining the infrastructure typically associated with developing and launching an application.
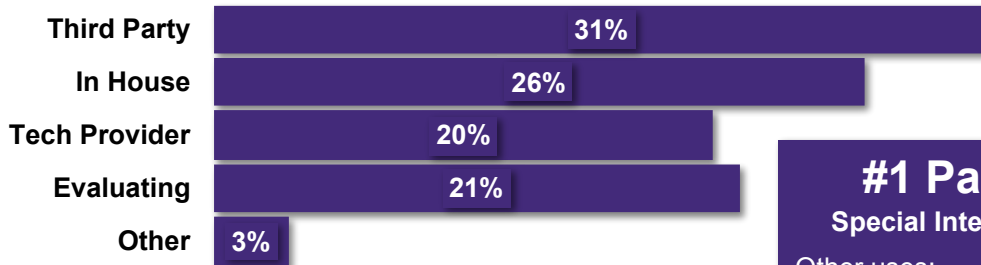
Third Party solutions offer pre-developed applications that can be purchased directly from the marketplace; these solutions offer extensibility to the existing SaaS solution while assuring low-hassle integration with their applications.

Figure 152: PaaS Adoption and Development

	Workforce Using			
	Today	12 Months	Evaluating	No Plans
PaaS (Platform as a Service)	20%	3%	18%	59%

43% from last year

What is Your Approach to PaaS Development?

Third Party	31%
In House	26%
Tech Provider	20%
Evaluating	21%
Other	3%

#1 PaaS Use
Special Integration Needs

Other uses:
- Reporting Functionality
- Industry/Domain Applications
- Robotic Process Automation

Of particular interest to organizations with highly customized On Premise HR solutions (which may include custom bolt-ons designed for their unique business requirements), PaaS technology provides a pathway for a potential move to the Cloud while still meeting custom requirements. Today, 20% of organizations are leveraging PaaS infrastructure technology in conjunction with their HR systems, a 43% increase from 2017. For organizations leveraging PaaS today, we've seen a considerable drop in engagement of Third Party vendors for development work this year shifting to in-house staff. Addressing special integration needs is the most common use of PaaS deployment.
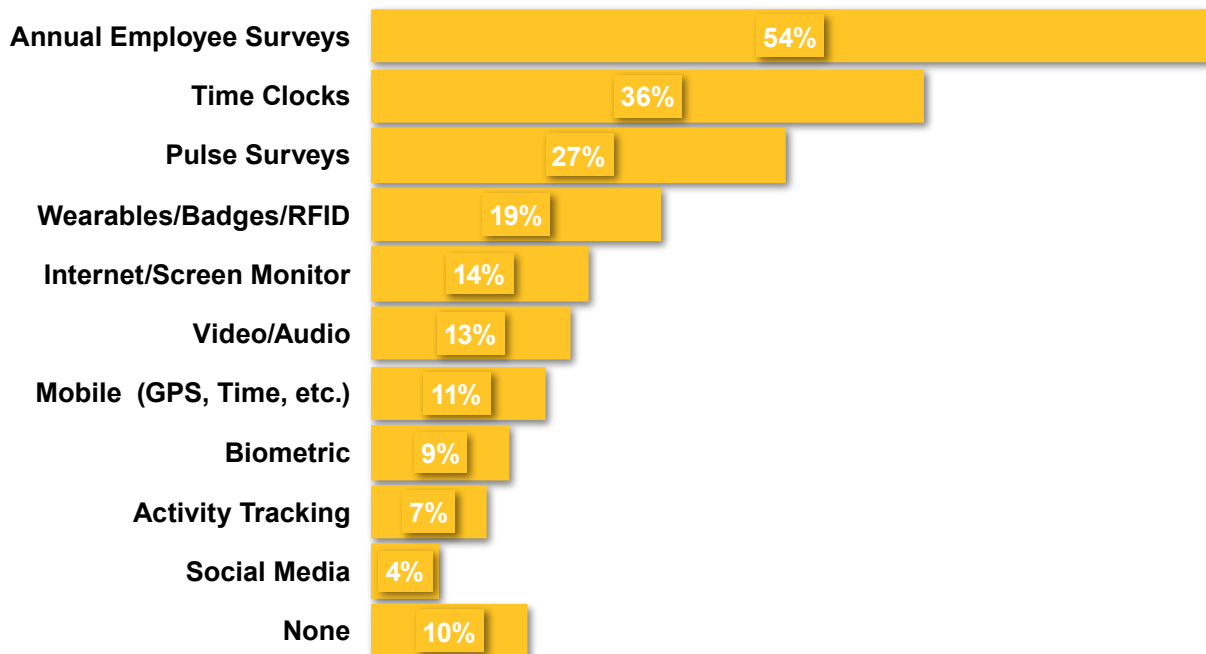
The Emergence of Intelligent Platforms

Innovation comes in many formats, the least of which is simply *newer and bigger* systems. The next generation of workplace technology is being designed to inform our decisions and simplify our activities; it is meant to be invisible and ubiquitous in our lives and is expected to continuously gather data necessary for maintaining multiple intelligent platforms.

Last year, 76% of organizations stated that Predictive Analytics would provide real value to their HR organizations, and yet only 16% of organizations are using it today. The line between what organizations want and what they can do comes down to one simple issue: building blocks. Every intelligent platform requires immense amounts of historical and current data to train and test. Although it can be tempting to buy into the vendor hype that you can leapfrog over these data requirements, just imagine your smart phone voice-activated digital assistant trying to explain the multiple variations of your Onboarding process to your CEO. If that image was disturbing, think about how the intelligent platform feeding your HR applications will need both data and time before it becomes a valuable member of your HR technology ecosystem.

The first building block is Data. If you haven't heard the news yet, Data is more valuable than oil—and guess who has an abundance of data? Understanding your organizational data is a critical first step in building an environment for tomorrow's Intelligent Platforms. Organizations are most likely to be capturing Employee Data outside of HR applications in Annual Employee Surveys (54%), while Small organizations are more likely to leverage Internet/ Screen Monitoring tools and Mobile (GPS or Time Tracking) than Large or Medium organizations.

Figure 153: Methods of Capturing Employee Data

Method	Percentage
Annual Employee Surveys	54%
Time Clocks	36%
Pulse Surveys	27%
Wearables/Badges/RFID	19%
Internet/Screen Monitor	14%
Video/Audio	13%
Mobile (GPS, Time, etc.)	11%
Biometric	9%
Activity Tracking	7%
Social Media	4%
None	10%

We also found that Emerging Technology companies are more likely to capture employee data in almost all areas over the aggregate data set: over 70% conducted some form of annual Employee Survey.

Figure 154: Methods of Capturing Employee Data, Emerging Technology Companies
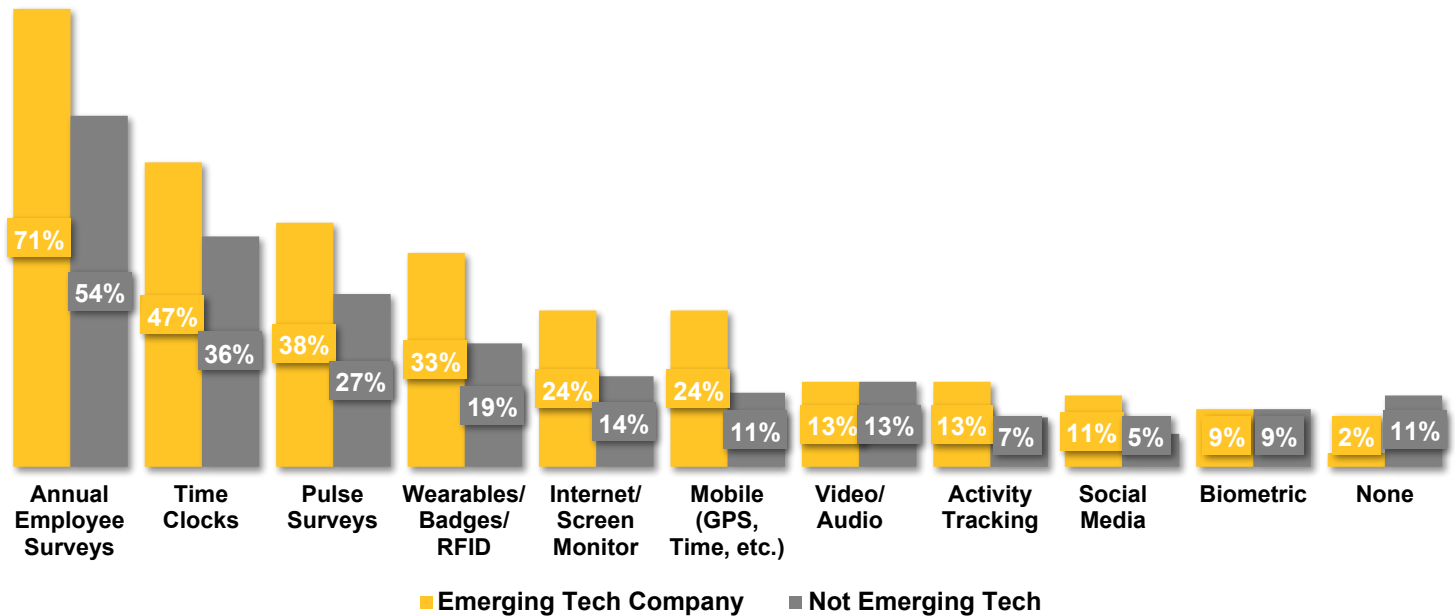
What should an organization do with its data after it's been identified, gathered, and made accessible via a Workforce Intelligence application? Data must be refined, analyzed, put into context, evaluated for ethical issues, and shared in a way that provides value to the organization, creating either awareness or assistance in decision-making efforts. Using data without proper cleansing or analysis could result in catastrophic situations for an organization. Initially, accessing and leveraging data may be a risk and yield very little value—but those organizations able to harness the data will reap the long-term benefits. As organizations simplify the data collection process and build incentives for data sharing, data can become an infinite resource. Data can also be reused, recycled, and provide insights, both internally and externally, when compared to broader data sets. Our Survey identifies the tools using data today and are most relevant to the evolution of emerging intelligent platforms. These early technology efforts are the next building blocks for tomorrow's intelligent systems.

Benchmarking Databases

Benchmarking, a comparison exercise that organizations undertake against competitors or peers, uses a data set obtained from systems, interviews, surveys, or simple observation by an entity that chooses to keep that information. One of the key benefits of using multi-tenant Cloud technologies is that, with permission, vendors have the ability to aggregate their client data for more accurate and broader benchmarking efforts in many areas. This may include metrics, activities, usage data, or key practices. Currently, **27% of organizations** are leveraging Benchmarking databases as part of their HR technology, with another 24% evaluating these tools. One of the current challenges of Large enterprise benchmarking efforts is that only categorized and comparable data can be used for analysis, removing the ability to analyze unstructured data such as written comments, notes, or even uncategorized fields. Large contextualized benchmarking databases with data that spans multiple timelines are part of the structured data required for training and validation of effective intelligent platforms of the future.

Predictive Analytics

Predictive Analytics is a branch of advanced analysis that extrapolates future events based on existing data sets. This advanced process uses multiple techniques, including data mining, predictive modeling, and statistical algorithms to assess future possibilities. Currently, **16% of organizations** are leveraging Predictive Analytics as part of their HR technology, with another 13% Evaluating these tools. Organizations wishing to use Predictive Analytics face a number of challenges including data quality, data volume, and data bias—any one of which could derail a Predictive Analytics model. Predictive Analytics is an iterative science with models that must be adjusted frequently to achieve accurate and actionable insights.

Sentiment Analysis

Sentiment Analysis, sometimes referred to as opinion mining, is the use of natural language processing tools and various forms of text-based analysis tools to determine attitudes, perspectives, and opinions of large data sets. These tools often analyze unstructured data required for Predictive Analytics over time and provide richer context to benchmarking analyses' data and other employee engagement efforts. Today, only **9% of organizations** have adopted any form of Sentiment Analysis and another 18% are evaluating their options.

Machine Learning

Machine Learning is a specific type of system algorithm that provides computers with the ability to change their own parameters, based on changing data and inputs, to either take action or provide data. The endgame of Machine Learning is to develop technology that can grow and teach itself continually as data inputs are received. For the HR space, we see organizations investing in Machine Learning for Recruiting, Performance Management, Health and Wellness Programs, and operations-specific requirements. Only **8% of organizations** have explicitly adopted Machine Learning today, although it may be embedded in existing technology over time, and 21% are evaluating the technology for future use. Much of what is currently being called Artificial Intelligence or Intelligent Systems in HR technology environments today are early forms of Machine Learning.

Robotic Process Automation (RPA)

Robotic Process Automation (RPA) software operates as a virtual workforce controlled by rules set during configuration. This software—or "bot"—emulates human execution of tasks via existing user interfaces: it captures and interprets existing applications, manipulates data, triggers responses, and communicates with other systems. It can be applied to existing applications without changing the current IT landscape.

RPA is a great tool for repetitive tasks, often improving the speed and accuracy of the work. Organizations using RPA often apply these applications to administrative tasks in Onboarding, Payroll, and Benefits enrollment— freeing up HR administrators to manage more complex work in these areas. Only **6% of organizations** were aware of the use of RPA applications in the context of HR, but 14% were evaluating the application for future use.

Blockchain

Blockchain technology is a data structure that makes it possible to create a digital ledger of transactions and share it among a distributed network of computers. Specifically, it is a growing list of records, called blocks, that are linked using cryptography. Each block contains cryptography, hash/signature (of previous block), timestamp, and transaction data.

By design, a Blockchain is resistant to modification of the data. It is ***an open, distributed ledger that can record transactions between two parties in a verifiable and permanent way.*** Once recorded, the data in any given block cannot be altered retroactively without alteration of all subsequent blocks, which requires consensus of the network majority.

Although this technology is in its very earliest of stages, many forward-looking organizations believe Blockchain technology will fundamentally change many HR practice areas:

- Instant Payroll/Non-cash Payments
- Reference Checks
- Certification Verification
- Performance Ratings
- Job/Career History Management
- Background Checks

Although most of these examples are still hypothetical, **3% of organization**s reported that they are currently using Blockchain applications in their HR technology environments. Early-adopting organizations are definitely building business cases for future applications, but they are unlikely to be mainstream in the next several years.

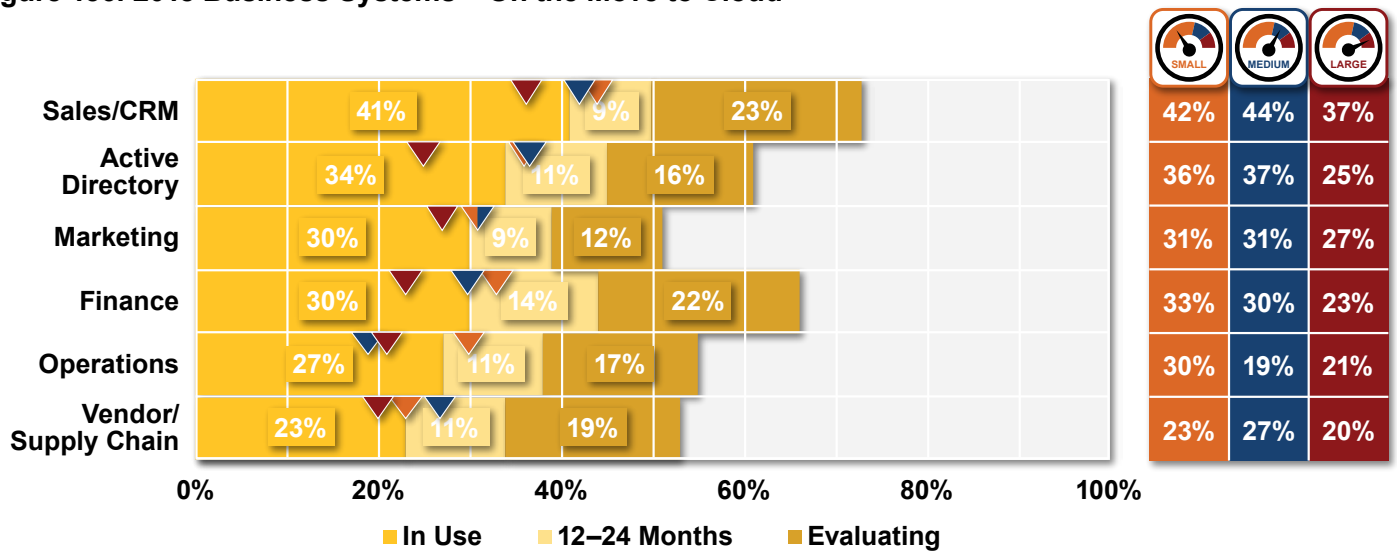**Figure 155: Intelligent Systems Building Blocks, Summary**

	Workforce Using			
	Today	12 Months	Evaluating	No Plans
Benchmarking Databases	27%	6%	24%	43%
Predictive Analytics	16%	9%	13%	62%
Sentiment Analysis	9%	3%	18%	70%
Machine Learning	8%	4%	21%	67%
Robotic Process Automation	6%	2%	14%	78%
Blockchain	3%	2%	10%	85%

These applications focus on the needs of early adopters, but overall adoption is increasing. There was a 35% increase in the number of organizations doing Benchmarking this year, and an almost 1½ times increase in organizations using Sentiment Analysis and Machine Learning applications. Ignoring the growing hype and focus in these areas is not advisable—this technology movement is not a trend, but rather a whole new way of working. The best advice is to walk into this era with eyes open, clearly evaluating the risks, rewards, limitations, and possibilities inherent in this new future.
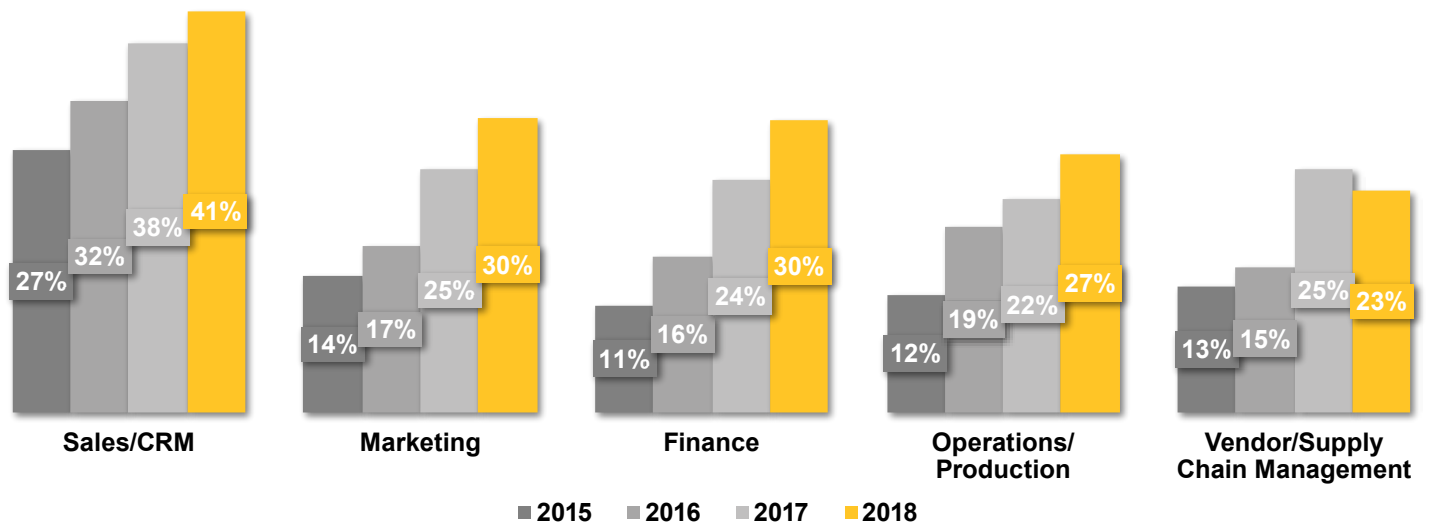
Total Enterprise Cloud Movement

As we wrap up this year's report, we want to remind HR leaders that they can provide guidance and leadership as Finance and Supply Chain functions begin to make their own journey into the Cloud. In asking organizations which business systems (Sales/CRM, Vendor Management, Marketing, Financial, and Operations Systems) will join HR in the Cloud, our data shows the most likely non-HR candidate will be Sales/CRM solutions at 41%. This transformation effort, in part, has been spearheaded by organizations such as Salesforce.com. For all responding organizations, more than 25% of all business applications are now in the Cloud; a slight difference exists by size, as Cloud deployment is more likely for Small organizations and less likely for Large organizations.

Figure 156: 2018 Business Systems – On the Move to Cloud

	In Use	12–24 Months	Evaluating	SMALL	MEDIUM	LARGE
Sales/CRM	41%	9%	23%	42%	44%	37%
Active Directory	34%	11%	16%	36%	37%	25%
Marketing	30%	9%	12%	31%	31%	27%
Finance	30%	14%	22%	33%	30%	23%
Operations	27%	11%	17%	30%	19%	21%
Vendor/Supply Chain	23%	11%	19%	23%	27%	20%

While HR Technology transformation efforts may seem slow and sometimes painful, in tech terms, they have been quite rapid. Within twenty years, the focus of HR technology applications has shifted from administrative tools to end-user engagement platforms; over the last ten years, Cloud has gone from a concept to a reality, with over 50% of organizations deploying Cloud-based HR applications. Non-HR Business applications are moving just as fast, with the number of organizations deploying applications in the Cloud doubling in the last four years.

Figure 157: 2015–2018 Business Systems Cloud Deployment Timeline

	2015	2016	2017	2018
Sales/CRM	27%	32%	38%	41%
Marketing	14%	17%	25%	30%
Finance	11%	16%	24%	30%
Operations/Production	12%	19%	22%	27%
Vendor/Supply Chain Management	13%	15%	25%	23%

HR not only has the technical and Change Management experience valuable for navigating this upcoming enterprise Cloud transformation, but it also has the benefit of pushing its own technology market to develop applications with a focus on added value over administrative cost savings. When compared with other support functions such as Finance and Supply Chain, HR Systems Strategies are the least likely to be adopted, but our data shows that when strategies are in place, they are highly correlated with Business Outcomes.

Figure 158: Enterprise System Strategies and Business Outcomes

Have Business Outcomes Declined or Improved over the Last 12 Months?
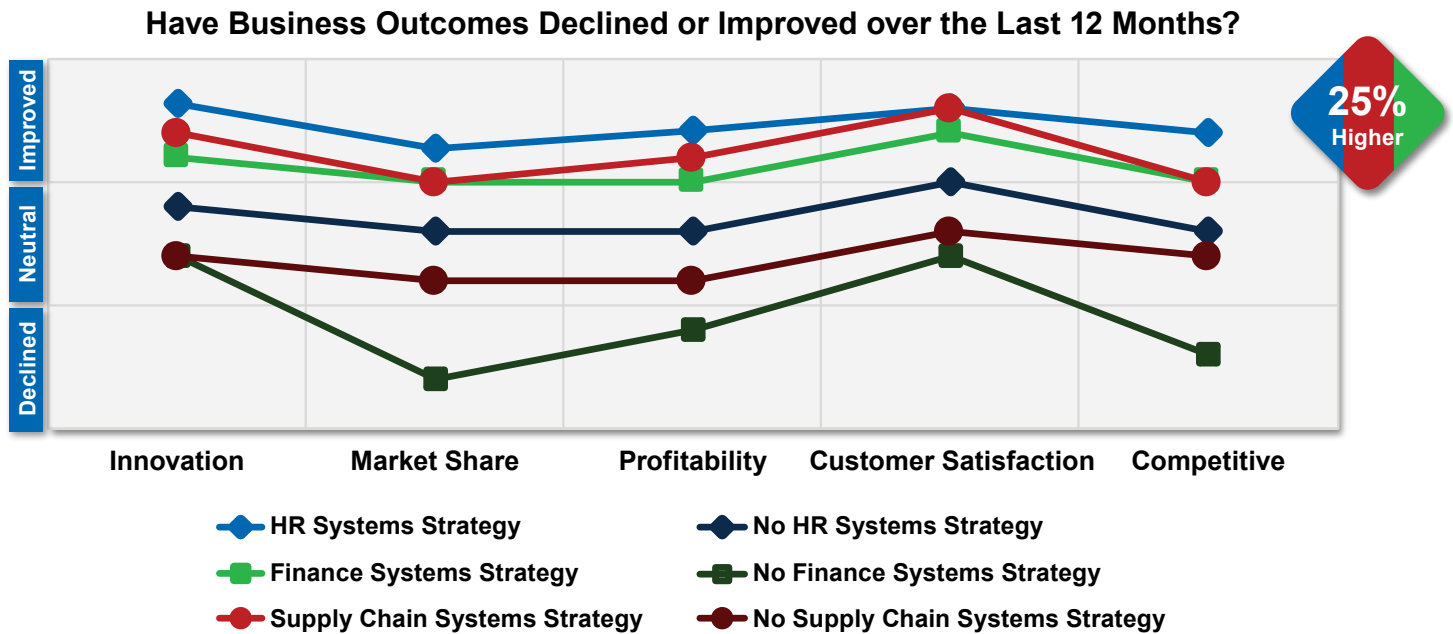
In figure above, the influence of various system strategies can be seen on Business Outcomes as organizations with HR System Strategies, Finance Systems Strategies, and Supply Chain System Strategies are highly correlated with improved Business Outcomes. The focus on increased business value provides an opportunity to help colleagues in Finance, Marketing, and Vendor Management understand the value of their systems.

Our Long-Term Perspective

Twenty years of Survey history gives Sierra-Cedar long-term insights into the trends with staying power in today's HR marketplace.

Today's HR Technologist is facing a rapidly changing world that requires management of an overwhelming amount of information and constant skill development. In the beginning of this research effort, our quest was to prove the value of HR technology. Today, the need for HR systems is no longer a debate, therefore our research focuses on helping HR Technologists and business leaders choose, use, maintain, connect, and harness the power of various systems to achieve desired outcomes. The future of HR technology is here and now, but we will always be asking, "What's next?"

> One machine can do the work of fifty ordinary men.
> No machine can do the work of one extraordinary man.
> – Elbert Hubbard

All emerging technologies have a place in history, but not all of them will have enterprise-wide impact for HR over time. This section of our research is an ever-evolving list of technology topics based on feedback we receive from our research community. We welcome input on additional emerging technology trends or other research areas you'd like to see included in our Survey at HRSystemsSurvey@Sierra-Cedar.com.

Survey Methodology and Approach

Sierra-Cedar conducts the longest running, most widely distributed, and most highly participative research effort in the HR industry. Since 1997, this invaluable resource has been a catalyst for the HR technology community, providing insight and guidance to practitioners around the world.

## The Depth and Breadth of the Research

Each year, over 1,000 organizations around the world complete the *Sierra-Cedar HR Systems Survey,* providing valuable research data from organizations of all sizes and industries. Survey participants come from multiple distributors, with only 5% from the Sierra-Cedar client base. This promotes a broad and varied audience when gathering data on technology adoption and usage metrics, along with safeguarding against data bias towards any particular vendor or user community so that data represents the overall HR technology environment.

Participating organizations answer in-depth enterprise HR systems questions across multiple topic areas:

- Technology adoption for Core HRMS, Payroll, Talent Management, Workforce Management, and Business Intelligence/Analytics solutions
- Deployment roadmaps
- Integration and implementation practices
- HR resources and system budgets
- Emerging and innovative HR technology
- Enterprise outcomes and business details related to HR systems adoption

Target Survey participants are HR and IT practitioners and leaders at the center of HR technology decisions, implementations, or Change Management efforts. Many organization executives and business leaders who focus on workforce technology issues also find the Survey results of interest.

Figure 159: Survey Methodology
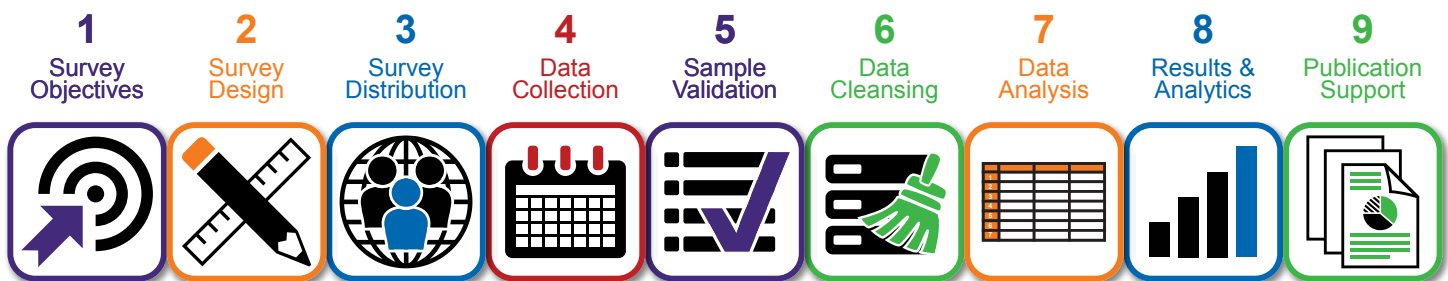
We follow rigorous standards in the form of our nine-step Survey Methodology, independently validated by the Mercer Survey Quality group. Each year, this annual reach provides a wealth of knowledge that is shared openly within the HR community. All participants are kept strictly anonymous, and only aggregate data is used.

Outcome Driven HR Methodology

In our quest to conduct research that provides insight to the HR Technology community's most challenging questions, such as adoption, cost, and value, we ask a wide range of questions concerning an organization's demographics, HR technology environment, and the organization's business or mission.

We also independently gather key financial metrics on Publicly Traded organizations. We use this data to deliver insight into the correlation of specific HR practices and technology to business and financial outcomes.
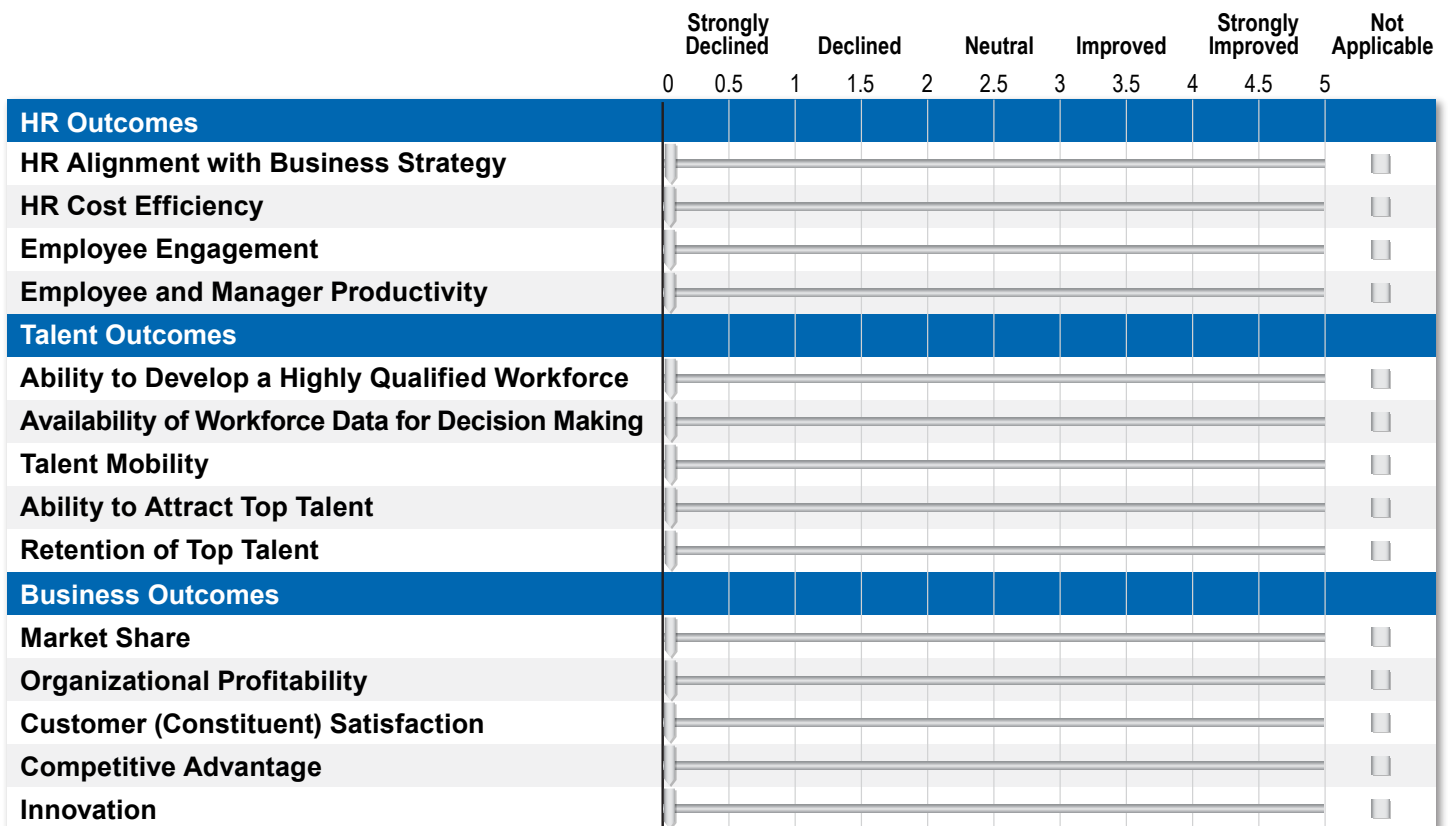
Financial Outcomes

Sierra-Cedar independently gathers the following financial metrics on each of our participating organizations from publicly available data:

- Revenue per Employee
- Profit per Employee
- Operating Income Growth
- Return on Equity

Non-Financial Outcomes

Our non-financial outcomes fall into three categories. Each Survey respondent is asked to identify if—over the last year—its HR, Talent, and Business Outcomes declined, stayed the same, or improved on a scale of 1–5.

Figure 160: HR, Talent, and Business Outcomes

	Strongly Declined	Declined	Neutral	Improved	Strongly Improved	Not Applicable
	0 0.5	1 1.5	2 2.5	3 3.5	4 4.5 5	
HR Outcomes						
HR Alignment with Business Strategy						☐
HR Cost Efficiency						☐
Employee Engagement						☐
Employee and Manager Productivity						☐
Talent Outcomes						
Ability to Develop a Highly Qualified Workforce						☐
Availability of Workforce Data for Decision Making						☐
Talent Mobility						☐
Ability to Attract Top Talent						☐
Retention of Top Talent						☐
Business Outcomes						
Market Share						☐
Organizational Profitability						☐
Customer (Constituent) Satisfaction						☐
Competitive Advantage						☐
Innovation						☐

Data analysis uncovers variations in how organizations approach both their business and technology decisions and patterns in how they achieve positive outcomes in multiple different ways. When assessing organizations, there is no right or wrong approach to HR technology investment: the four different types of organizations used in our comparison analysis are as follows:

- Top Performing
- Talent Driven
- Data Driven
- Socially Responsible

Top Performing Organizations

We focus on finding high value from HR technologies and associated best practices by looking at Top Performing organizations—those with high financial performance—as determined by metrics in the following areas:

- Revenue per Employee
- Profit per Employee
- Operating Income Growth
- Return on Equity

The focus for Top Performing organizations is often one of financial outcomes, which may be realized at the expense of long-term planning. Top Performing organizations are selected because they fall into the top quartile of all four specific financial metrics. The average level of Top Performing organizations' financial metrics as compared to Non-Top Performing organizations are detailed below.

Figure 161: Top Performing Organizations

		Top Performing Top Quartile	Non-Top Performing
Revenue per Employee		1,975,313	388,893
Profit per Employee		739,558	162,112
Operating Income Growth (1 year)		44%	1%
Return on Equity		53%	14%

Talent Driven Organizations

Talent Driven organizations are entities that support an environment of Talent Driven decision making through their HR practices. When identifying these organizations, we use a unique index of qualifiers that will provide us with a year-over-year review of these cohorts:

- **Career Planning Process Maturity.** High levels of function in Talent Management (TM) in a way that is either Effective (i.e., aligned, best practice, strategically focused) or Transformational (i.e., unique, stands above others, and contributes to competitive advantage financially, enabling the organization to be an employer of choice).
- **Succession Planning.** Systematic solutions to address workforce changes.
- **HR Analytics Outcomes.** Leveraging HR analytics to accomplish key talent outcomes. Organizations must identify at least one of three key talent outcomes addressed by HR analytics:
  - Employee Engagement
  - Employee Retention Risks
  - Identifying Top Talent

The average behaviors of Talent Driven organizations' as compared to Non-Talent Driven organizations' index qualifiers are detailed below.

Figure 162: Talent Driven Organizations

		Talent Driven	Non-Talent Driven
Career Planning Process Maturity		**3.13** Effective	**1.32** Manual
Succession Planning		**100%**	**32%**
HR Analytics to ID Top Talent		**61%**	**17%**
HR Analytics to ID EE Retention Risks		**64%**	**25%**
HR Analytics to ID EE Engagement		**63%**	**21%**

Data Driven Organizations

Data Driven organizations are entities whose HR practices support an environment of Data Driven decision making. When identifying these organizations, we use a unique index of qualifiers that will provide us with a year-over-year review of these cohorts:

- **BI Process Maturity.** These are organizations reporting Effective or better levels of Business Intelligence Process Maturity.
- **Manager Access to BI Analytics.** HR analytics and Business Intelligence are used directly by managers to support their workforce decision making.
- **BI Data Sources.** Additional workforce data, including core HR, WFM, TM, financials, sales, and various operational systems, are integrated into an HR analytics process.
- **Categories of Metrics Tracked.** These help organizations make informed business decisions and optimize their workforce. We included eight categories in our Survey: Recruiting, Turnover/Retention, Learning, Compensation, Absence, Performance, Productivity, and Demographics.

The average behaviors of Data Driven organizations' as compared to Non-Data Driven organizations' index qualifiers are detailed below.

Figure 163: Data Driven Organizations

		Data Driven	Non-Data Driven
BI Process Maturity		**3.21** Effective	**1.24** Efficient
Manager Access to BI Analytics		**72%**	**39%**
BI Data Sources		**3.7**	**2.3**
Categories of Metrics Tracked		**5.56**	**3.64**

Socially Responsible Organizations

Socially Responsible Organizations are entities whose HR practices support an environment of Social responsibility as it relates to their workforce. When identifying these organizations, we use a unique index of Social responsibility qualifiers that provide us with a year-over-year review of these cohorts. Each year, we ask organizations to rate themselves—from Terrible to Excellent on a scale of 1–5—on how well they address a variety of Social Responsibility initiatives:

- Healthcare Benefits/Programs
- Employee Assistance Programs (EAP)
- Paid Family Leave
- Diversity and Inclusion
- Wellness
- Compensation/Pay Equity
- Tuition Assistance/Loan Repayment
- Community Involvement/Volunteering
- Retirement Planning
- Employee Engagement
- Outplacement Services
- Contingent Workforce Management

Organizations that are in the Top 10% of overall ratings are considered Socially Responsible organizations. The average level of rating for each Social Responsibility initiative area for Socially Responsible organizations compared to the remaining Non-Socially Responsible organizations are detailed below.

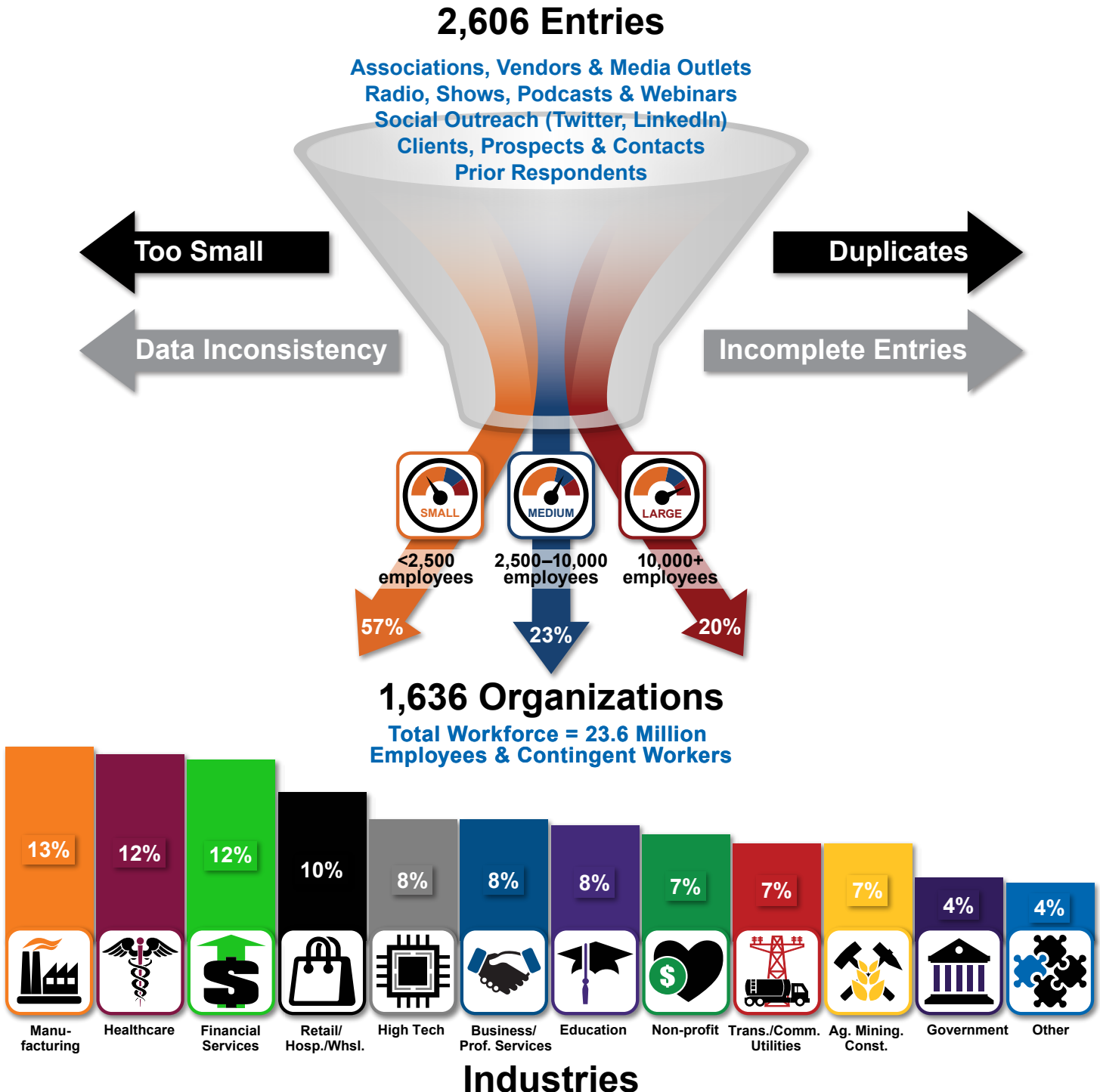**Figure 164: Socially Responsible Organizations**

	Socially Responsible	Non-Socially Responsible
Healthcare Benefits/Programs	4.99	3.91
Employee Assistance Programs (EAP)	4.99	3.88
Paid Family Leave	4.92	3.74
Diversity and Inclusion	4.89	3.91
Wellness	4.87	3.59
Compensation/Pay Equity	4.86	3.66
Flexible Schedules	4.83	3.65
Tuition Assistance/Loan Repayment	4.83	3.40
Community Involvement/Volunteering	4.82	3.63
Retirement Planning	4.82	3.53
Employee Engagement	4.74	3.41
Outplacement Services	4.58	3.07
Contingent Workforce Management	4.55	3.07

Rated on a Scale of 1–5, from Terrible to Excellent

2018–2019 Survey Demographics

The *Sierra-Cedar 2018–2019 HR Systems Survey, 21st Annual Edition* was conducted from April 9th through June 15th, 2018. Responses are subject to an extensive cleansing process resulting in the final totals below based on unique organizations divided into three organization sizes. The 2018–2019 data set includes Small organizations down to 30 employees because organizations at this size leverage enterprise-level HR technologies at early stages in their growth trajectory. A wide range of organizations participate in the Survey annually; the data is categorized into 12 primary industries.
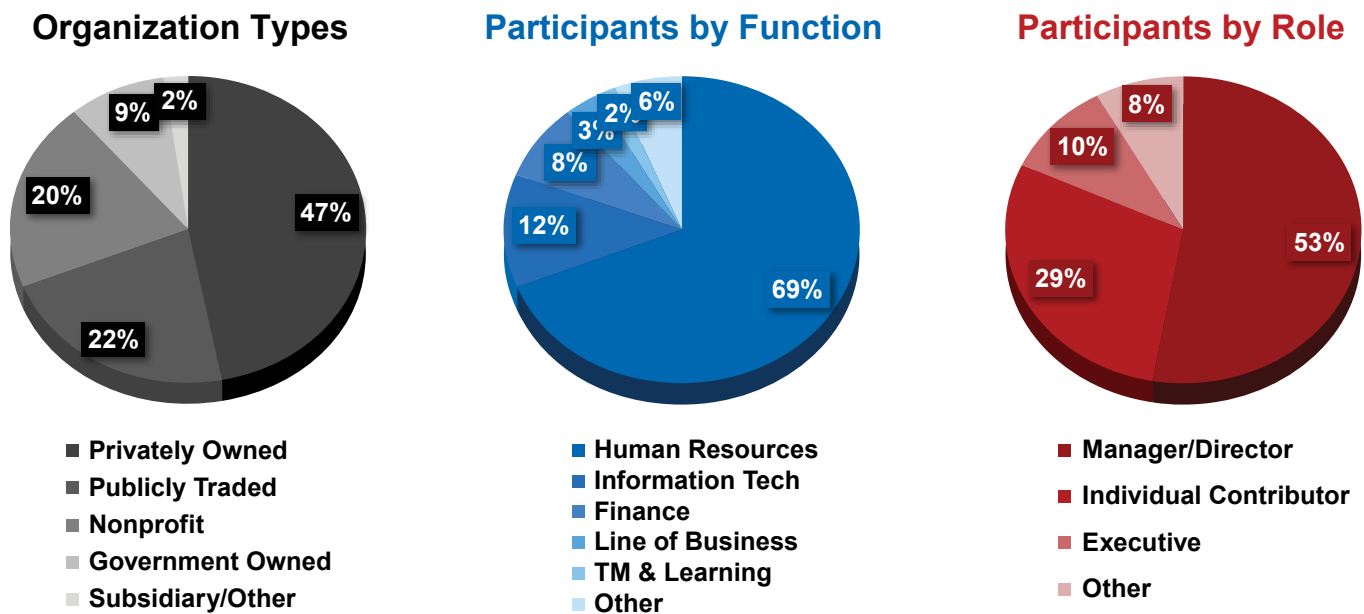
Figure 165: Demographics Information: All Respondents

2,606 Entries

Associations, Vendors & Media Outlets
Radio, Shows, Podcasts & Webinars
Social Outreach (Twitter, LinkedIn)
Clients, Prospects & Contacts
Prior Respondents

Too Small

Duplicates

Data Inconsistency

Incomplete Entries

SMALL — <2,500 employees — 57%

MEDIUM — 2,500–10,000 employees — 23%

LARGE — 10,000+ employees — 20%

1,636 Organizations

Total Workforce = 23.6 Million
Employees & Contingent Workers

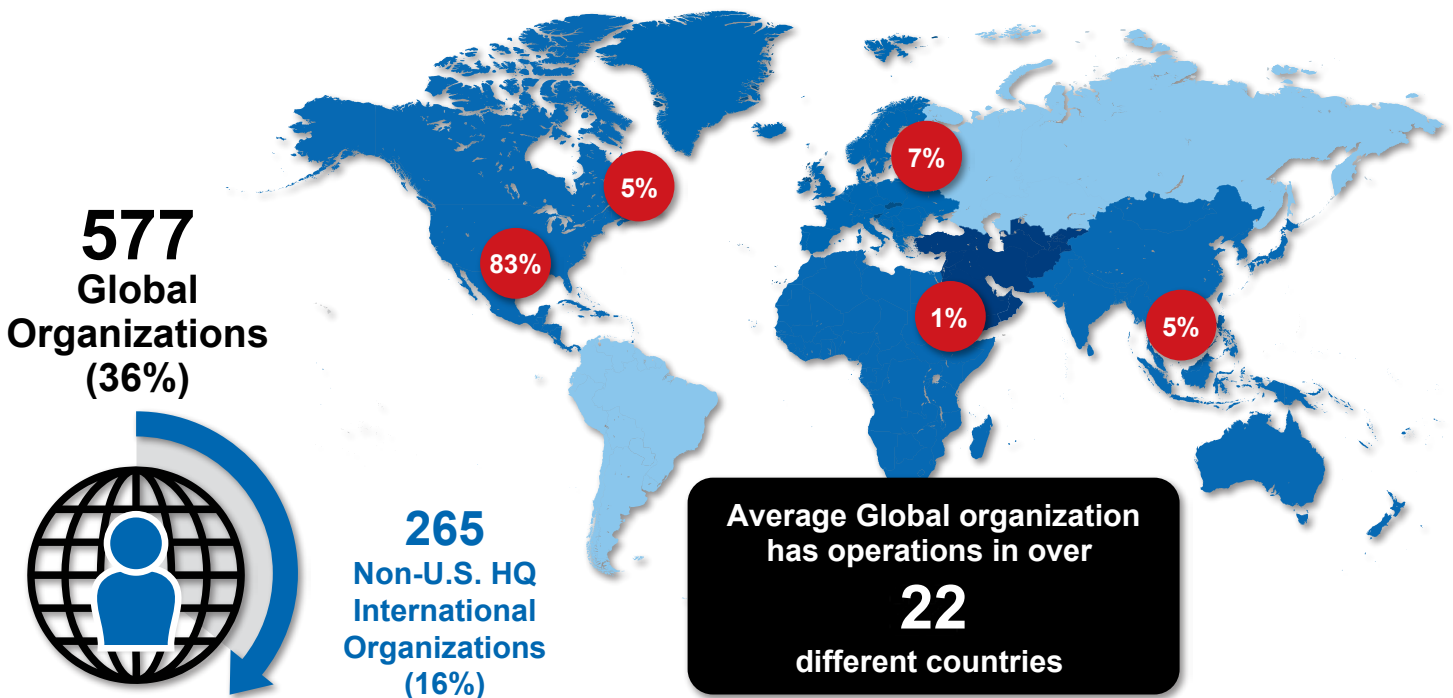| Manu-facturing	Healthcare	Financial Services	Retail/ Hosp./Whsl.	High Tech	Business/ Prof. Services	Education	Non-profit	Trans./Comm. Utilities	Ag. Mining. Const.	Government	Other
13%	12%	12%	10%	8%	8%	8%	7%	7%	7%	4%	4%

Industries

The 1,636 organizations represent multiple organization types. Survey respondents are a mixture of HR and IT practitioners, along with professionals who have led technology selections, implementations, or Change Management efforts. These respondents are intimately involved as HR technology decision makers.

**Figure 166: Organization Types, Participants by Function, and Participants by Role**

Organization Types

- Privately Owned — 47%
- Publicly Traded — 22%
- Nonprofit — 20%
- Government Owned — 9%
- Subsidiary/Other — 2%

Participants by Function

- Human Resources — 69%
- Information Tech — 12%
- Finance — 8%
- Line of Business — 3%
- TM & Learning — 2%
- Other — 6%

Participants by Role

- Manager/Director — 53%
- Individual Contributor — 29%
- Executive — 10%
- Other — 8%

The Sierra-Cedar HR Systems Survey's worldwide audience includes Global organizations operating in multiple countries outside their headquartered country.

Figure 167: Demographics – International and Global Organizations

577 Global Organizations (36%)

265 Non-U.S. HQ International Organizations (16%)

83% 5% 7% 1% 5%

Average Global organization has operations in over **22** different countries

In order to gain additional insight into technology adoption within organizations, we asked Survey respondents to estimate the age range of their workforce. We show those breakouts by size below and have included further analysis on generations in previous sections of the paper, categorizing organizations by whether they have on average an older workforce, younger workforce, or a workforce equally spread across all generations.

Figure 168: Generations
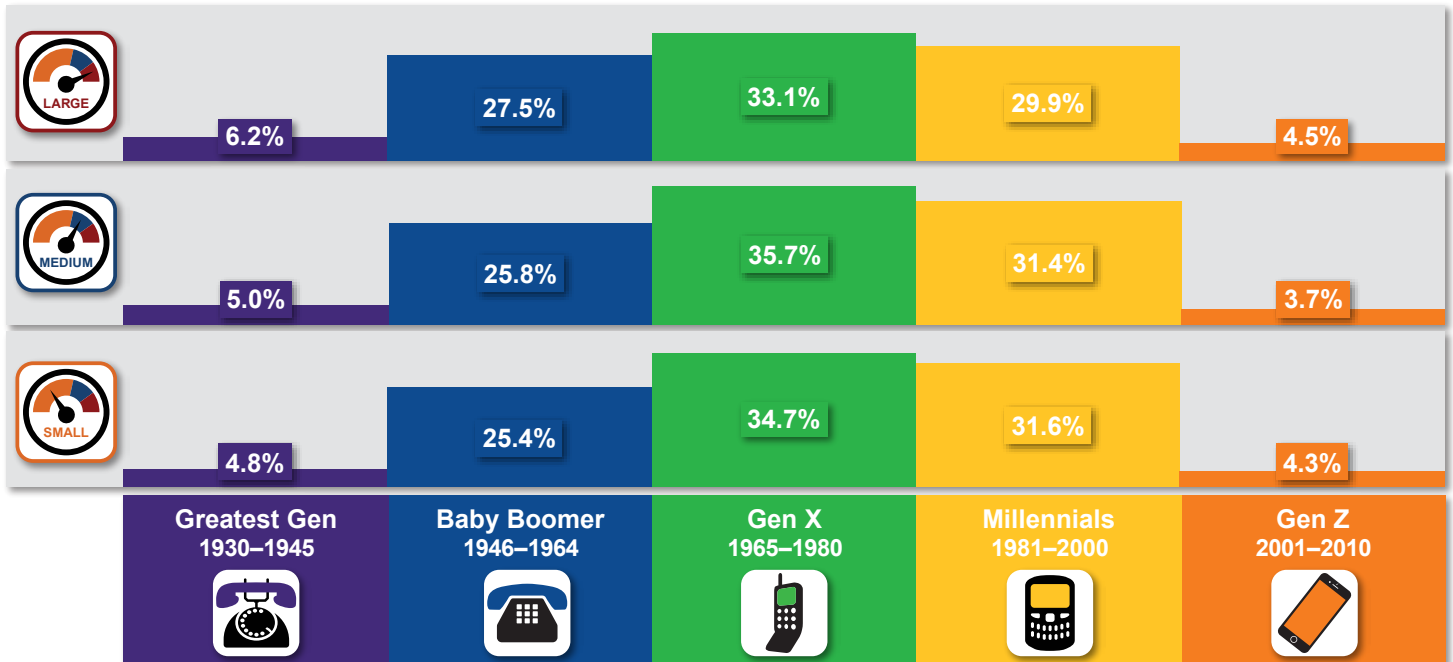
For more details or questions on this year's Annual HR Systems Survey data set, please contact us at HRSystemsSurvey@Sierra-Cedar.com.

Sierra-Cedar

About Sierra-Cedar

Sierra-Cedar helps clients navigate their application and technology roadmap, whether to modernize their existing portfolio or move to emerging technologies by integrating industry knowledge, deep technology capabilities, breadth of service offerings, and global delivery model into best-value solutions. Our services are categorized into industry-based consulting services and industry-agnostic shared services.