

2020

HR TECHNOLOGY MARKET

Josh Bersin

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Introduction

A Massive Shift In Focus: From Systems of Record to Systems of Experience

HR technology is an enormous part of business today. In the U.S. alone, there are more than 12.1 million employers spending over \$5 trillion on payroll, benefits, training, and other employee programs. More than a third of the workforce changes jobs every year, creating a \$250 billion-plus market for recruitment, advertisement, assessment, and interviewing. The L&D marketplace is over \$220 billion per year and spans onboarding to leadership development to technical and continuous skills programs. And the market for wellbeing, benefits, insurance, workplace tools, and workplace productivity systems is similarly large.

As I look back at the HR technology changes over the last decade, I see the market moving through four major phases.

- **Systems of record:** In the 1970s and 1980s, companies acquired systems to automate paper transactions, creating the HR system of record. Initially these were mainframe computers; then client/server systems came along, typically presenting the HR user with a screen that looked like a form.
- **Systems of talent:** In the 1990s and 2000s, new market phase emerged – tools for applicant tracking, learning administration, employee surveys, and employee self-service. These tools moved the market beyond automation to a focus on talent outcome -- hiring people faster or

cheaper, tracking or improving training and skills, understanding employee engagement, and giving people better information to do their jobs.

- **Systems of engagement:** When the internet and cloud computing arrived, vendors shifted their focus toward employees to integration. SuccessFactors, Workday, and hundreds of other vendors built cloud-based systems that tried to integrate all these talent applications into a single suite, with an easy user interface that was intended to engage employees. Companies rushed to buy these systems because they looked like they would not only make employees more productive, they would help the company with its “digital transformation.”
- **Systems of intelligence:** Today, as we move into 2020 and the next decade, the market is shifting again. The explosion of AI and analytics technology is empowering vendors to build more and more intelligence into these applications. Companies can now buy tools that identify the best people to source; screen and assess candidates; identify who is performing well; give us tips on how to be better managers or more productive employees; tell us what to learn and where to find it; and even notify us if we are over or under paid. And in a more socially responsible direction, AI tools can point out bias in sourcing, interviewing, hiring, and promotion.

These are the big issues I talk about with HR and leadership teams everywhere I go. Each is dependent on technology and some can be revolutionized by technology – making HR technology more important than ever this year.

Systems of Record	Systems of Talent	Systems of Engagement	Systems of Intelligence
<ul style="list-style-type: none"> • 1970s and 1980s • Focus on transaction automation and record-keeping • Mainframe and client/server technology • Ran on PCs and dumb terminals • Data warehouses and relational database driven • Used by HR, payroll, and finance 	<ul style="list-style-type: none"> • 1990s and 2000s • Focused on recruiting, learning, performance, and talent management • Systems designed to automate and integrate talent practices • Mobile and social added as features • Analytics as separate modules • Used by heads of talent, recruiting, learning, and line managers 	<ul style="list-style-type: none"> • 2010s through today • Focused on cloud-based integrated HCM platforms • Designed to be more user friendly and easy to use • Mobile and social first, integrated, and designed • Analytics embedded into the application • Used by HR, managers, and employees 	<ul style="list-style-type: none"> • 2020 and beyond • Focused on employee journeys, interactions, and every day needs • Designed to be systems of productivity and action platforms, making work easier and better • Cloud-based, mobile-design, highly agile and regularly updated • AI-embedded with intelligent nudges, suggestions, alerts, and actions • Used by HR, managers, employees, contractors

Figure 1
HR Systems Evolution

However, when moving into systems of intelligence, buyers face two big challenges:

- First, each of these four areas continues to be important. You cannot build a system of intelligence for your employees until you have a system of record, and this system of record has to contain accurate and clearly organized data. Since there are so many different applications in HR, companies need sound architectures to bring all disparate systems and tools together. (The typical HR organization has 11 systems of record; the typical recruiting department has more than 10; and the typical L&D department has almost 20¹.) So architecture continues to be important, and I'll explain the new architecture for HR technology later in this report. (Hint: The answer is not to buy everything from one vendor.)
- Second, there are an ever-expanding number of new applications on the market. Today you can buy systems that track employee emails to identify patterns of strong or weak teamwork; you can buy systems that recommend the right career path for people; you can buy systems that coach managers and employees directly through their phones; and you can buy systems that connect your workforce as an internal talent marketplace. Two years ago nobody even dreamed of these applications. So HR departments are forced to be "general contractors," selecting specialists and tools and deciding what to build. No two companies has the same suite of systems.

Shift from Engagement to Experience

Concurrent to the market evolution, we are seeing another big change. Today, in our eleventh year of an economic growth cycle, employees are burned out. They have too many tools, too many emails, and too many distractions at work. So HR technology vendors can no longer build systems with lots of screens and tabs to access information. People simply will not use them. A new idea has emerged: the idea of the "experience platform."

As one company put it, work has shifted from a focus on loyalty (the employer takes care of the employee), to a focus on engagement (what the employer can do to make the employee happy), to a focus on the experience (how can the employer make work fun, rewarding, and interesting every day?).

Many studies show that consumers today spend more money on experiences than they do on goods. The service economy is now the biggest economy in the United States, and each and every one of us has slowly changed our buying behavior from one focused primarily on the product to one in which we base purchases on the product and consumer experience.

This has not been lost on ambitious HR and workplace technology vendors. Dozens of vendors now sell employee experience platforms, learning experience platforms, talent experience platforms, and end-to-end case management and knowledge management tools to help employees find just what they need.

In fact, AI is likely to change this space in a big way. Just as Amazon, Google, and Facebook are trying to build the "front door" to their worlds with Alexa, Google Voice, or other tools we can talk to, so is AI enabling the employee experience to be conversational and embedded into the flow of work. All the HR transactional stuff still happens, it just happens invisibly.

In an experience-oriented application, the designer thinks about what you want to do, not what the system wants you to do. We use the terms "employee journeys" or "moments that matter" to study what employees do every day and then build systems that model and mimic those actions to make them easier.

I recently met with leaders of a large technology company which has built a whole HR service center focused on various employee segments and transitions, such as low-performing employees, onboarding and job transition, another family change, and managerial training and support. This approach shows a shift away from HR services focus to an emphasis on solution centers aligned around employee journeys.

1. Sierra Cedar and Bersin Research

In fact as the employee experience wave grows, HR departments are changing their whole service delivery model. Once we think about all the interactions and journeys employees go through, we realize that we need multi-disciplinary service delivery teams, coupled to IT, to provide the right level of support. HR platforms designed to support specific HR roles or functions are not designed for this change.

From a technology standpoint, we also have to recognize that employees want “mobile first” solutions. Mobile devices now publish more than half the world’s advertising spend because we spend most of our lives on our mobile phones (3.6 hours per day according to Bond Internet Trends). The traditional HR software model, in which companies first built web-based systems and then added a mobile app, is going away. These systems have to be mobile apps first, web apps second. ADP, Oracle, Workday, and SAP now design this way.

And let’s not forget voice. Today more than 40 million households have Alexa or Google listening devices, and there are more than 100,000 Alexa “skills” (applications that understand your voice). We have to assume that HR tools will be accessed by voice on our phone, not by a track pad on our PCs.

Workforce and Workplace Issues Have Changed

Many new issues have also appeared on the HR agenda over the last few years.

First, employees are under a lot of stress. As the economy continues to grow, so does job creep. Employers are expecting people to work increasing amounts of time. Leaders often tell me their employees frequently work 50-60 hours per week (this data is now available from tools like Microsoft Workplace Analytics), and they can see activity start on Sunday evening as people try to catch up for the week ahead.

While I would have hoped that we would tame technology by now, it’s pretty clear to me that all these social and mobile tools we use are still addicting us to unproductive behavior. Try using TikTok if you don’t believe me. This means employers are looking harder and harder for technology that will help. Second, AI and automation are creating lots of change.

A study by Edelman found that 49% of employees now believe automation and re-skilling are their biggest threats at work. Consequently, employees desperately want learning opportunities, forcing companies to invest even more heavily in learning in the flow of work.

Third, the workforce itself is highly diverse and the type of work we do is more “pixelated” than ever before. Companies now employ people across six generations. People in their 60s and 70s are continuing to work. Diversity is a CEO-level topic, as laws in many countries now mandate disclosure of gender pay ratios and CEO-pay ratios. Diversity reporting, tracking, and tools that identify non-diverse talent practices are now mainstream.

The alternative workforce, that of contract and contingent workers, is no longer alternative: it’s mainstream. More than 40% of the U.S. workforce is employed in an alternative arrangement and among Millennials and Gen-Z workers, almost two thirds now practice side-hustles. HR platforms do not manage alternative workers well, so most are being managed by the procurement department.

Fourth, there is tremendous demand for more innovative models of pay. U.S. and U.K. workers have fallen behind the standard of living, so many are demanding real-time pay (payroll run weekly or even daily), payday loans, and more financial benefits to help them make ends meet. Financial stress is among the greatest productivity killers in the workforce, so companies are starting to add many new financial benefits and education programs to help fill this gap. We need better compensation modeling, reporting, and flexible delivery tools to make this easier.

And finally the market for employee engagement tools (surveys and related listening tools), wellbeing platforms, social recognition, and other types of tools to help employers regularly monitor and improve the health and happiness of the workforce are among the hottest products on the market. The wellbeing leader, who used to report to the head of compensation and benefits, is now a strategic player in HR and he or she is actively looking for new employee happiness, monitoring, and wellbeing technologies.

How the HR Tech Markets Have Changed

CEO studies² now show that workforce development, alignment, and employee brand are among the top issues on the minds of CEOs. In fact, it’s now quite clear that the digital transformation companies have been going through has less to do with technology than people realized: it’s all about changing the way people work.

As a result, the HR tech market is as frothy as I have ever seen it. Hundreds of VC and private equity firms are throwing money into the market, seeding more than 3,000 startups and small- to mid sized providers around the world. My database of HR technology players has well over 3,800 vendors listed, and I’m sure I’ve missed many.

And as the market grows, the sandbox has now attracted gorillas. Google, Microsoft, Facebook, Salesforce, IBM, Salesforce, Cisco, and most of the other enterprise software companies have now started building systems for HR, because the line between HR software and workforce productivity software has almost gone away.

We did a series of events with Microsoft this year designed to help L&D leaders understand how to use Microsoft Teams and other Microsoft video and networking tools for training. The response was overwhelming. Everyone is trying to find ways to use the systems of productivity to deliver HR solutions. This trend is threatening Workday, SuccessFactors, Oracle, and other dedicated HR vendors.

Confusion for Buyers

According to Cedar Crestone, the market for HR tech grew by an astounding 10% last year ? Companies are throwing money at HR tools right now, searching for ways to transform their workforce, make people more productive, and improve their quality of hire, skills development, and employee engagement and retention.

- 2. Conference Board CEO 2019
- 3. Sierra-Cedar 2018-2019 Systems Survey

GOOGLE	Google Hire, Google for Job
MICROSOFT	LinkedIn, Glint, Dynamics for HR, Teams for HR, Workplace Analytics
FACEBOOK	Workplace by Facebook
SALESFORCE	Trailhead Learning Platform
IBM	Watson recruitment, talent frameworks
SERVICENOW	From IT to employee service delivery

Figure 2
Gorillas Enter the HR Market

But this is starting to create chaos. As companies move to the new generation of tools, the number of systems in use continues to rise. The average large company now has 9.1 core talent applications (up from 7 in 2018) and is spending \$310 per employee per year -- a 29% increase over last year. While I'm not saying this is out of line, it does feel inflationary and I would not be surprised to see companies push for more ROI and productivity analysis when the economy cools off a bit.

Before I dive into the ten disruptions I see taking place in the HR tech market, let me review the people challenges companies face today, since these ultimately drive tech purchases. While HR has always had the responsibility for staffing, payroll, employee relations, and general employee development, today a new set of talent issues have appeared.

- **Fairness and transparency:** Are we hiring, promoting, and paying people in a fair, unbiased, and transparent way? And are we being honest and open about the data we capture about our people?
- **Diversity and inclusiveness:** Are our people practices inclusive, diverse by design, and respectful of gender, age, race, nationality, educational background, mental and physical ability?
- **Social consciousness:** Are we as an organization acting in a responsible way for society and the communities we serve and do business in?
- **Productivity:** In a world of never-ending digital interruptions, are we reducing clutter and noise and distractions in the workplace so people can get their work done? Do we know how and why people are wasting their time?
- **External branding:** Are we making sure our external brand is attractive, authentic, and relevant to job candidates and our existing employees? How do we monitor the websites where people can rate our company?
- **Team building:** Do we have the practices, tools, and reward systems that enable the company to be agile, team-centric, and built like a network? How do we flex our ERP system to really help us manage our company as a network?

- **Careers:** Are we actively helping employees upskill, move into new roles, and build purposeful, meaningful careers in our company? How can we improve internal mobility, regardless of whether an employee is being promoted?
- **Gig and contract work:** Are we ready to embrace part-time, gig, and side-hustle workers who want to work on their own terms? Can we manage contract and contingent work within HR or are we destined to outsource this to procurement?
- **Wellbeing:** Are we responding to employees' demands for a more humane, healthy, and friendly workplace where they feel developed and rewarded while they work extra hours? What tools should we buy and where does our responsibility for this topic stop and individual ownership begin?
- **Pay:** Are we adapting the way we pay and reward people to be more generous, holistic, and more frequently reviewed as the job market continues to be competitive? Can we deal with the demands for real-time pay and a new generation of highly flexible rewards?
- **Leadership:** Are we developing a new generation of leaders and do we really understand what leadership in a networked organization means? Do we have tools and data that show leaders how to improve on their own?
- **C-suite support:** Are we doing our job to assist C-suite team members to better address business change and evolving workforce issues?

These are some of the big issues I talk about with CHROs, HR teams, and leadership teams everywhere I go. They are consistent around the world, they are difficult to solve, and many of them are new. And every single one of these issues is somehow dependent on technology, can be aided by technology, or in some cases can be revolutionized by technology. So HR tech matters more than ever this year.

AI Is Changing Everything: Moving to Action Platforms

Two years ago we talked about AI as if it were something mystical and magic. Today it's embedded into almost every system. Look at how it is impacting all these technology areas:

HR TECHNOLOGY AREA	AREAS OF AI
Core HR	Recommended salary adjustments, job changes, career moves, span of control, compliance trend
Recruitment	Intelligent sourcing, candidate marketing, video and audio interviewing, chatbots for candidate screening, assessment, and tracking interview processes
Learning	Inferred skills, recommended content, recommended programs, recommended adjacent skills, recommended types of content. AI-based coach matching, AI-based virtual reality training, AI-based micro-learning, AI-based peer assessment
Diversity and Inclusion	Identify and reduce bias in job descriptions, candidate communications, interview patterns, pay, rewards, promotion, and mobility.
Management and Leadership	AI-based nudges, action plans, learning recommendations, and tips based on engagement surveys, assessments, and feedback from team mates
Career and Mobility	Recommended gigs, new roles, new developmental assignments
Organizational Design	ONA (organizational network analysis) which identifies strong influencers, patterns of strong or weak teamwork, micro-management, non-diverse or non-inclusive communications
Wellbeing and Productivity	Time spent in meetings, time wasted in unproductive meetings, tracking of motion, health metrics, exercise, sleep, diagnosis of mental health, AI-assignment of psychologists or medical practitioners
HR Service Delivery	AI-based chat bots with ever-increasing intelligence to answer questions, assist with employee journeys, remove need for HR administrators; robotic process automation to automate most routine transaction processing

Figure 3
HR Technology Areas Impacted by AI

As vendors now leverage AI algorithms available from IBM, Google, Amazon, and Microsoft, such intelligent applications are easier to build than ever. In the year ahead, I think we will also see the following:

- First, action platforms starting to replace analytics and feedback tools. Every HR system that produces surveys, feedback, or manages employee communications is starting to get smart enough to deliver recommendations, not just reports. These “actions” will be delivered as alerts and messages, similar to what we see in our phones today.
- Second, increased use of voice. More and more HR tools will be accessible through voice recognition. Just as mobile disrupted the user interface model a decade ago, so voice will soon replace many of the UI-based interfaces we use in HR.
- Third, the tools are being integrated into the flow of work. As I'll discuss in this report, one of the biggest trends in HR and L&D is integrating all the HR practices we design right into the flow of work. This is a new way of improving the employee experience, and I believe it represents a new design paradigm for technology providers and HR teams. In fact, I do believe workplace technology and HR technology are coming together, and this will eventually be a good thing.
- Fourth, the security, transparency, and social nature of data is now a risk. Every company I talk with is capturing data, sharing data, and identifying external data that may alienate employees, leak company secrets, or perhaps, through AI, recommend or suggest behavior that is damaging. A recent study⁴ by the major UK unions found that 56% of employees are afraid of workplace monitoring and more than two-thirds are severely negative on mood-monitoring, keystroke monitoring, or other forms of data collection in the workplace. We have to be more open, transparent, and ethical about what we do with all the data we collect about our people.

4. <https://www.bbc.co.uk/news/business-45214424>

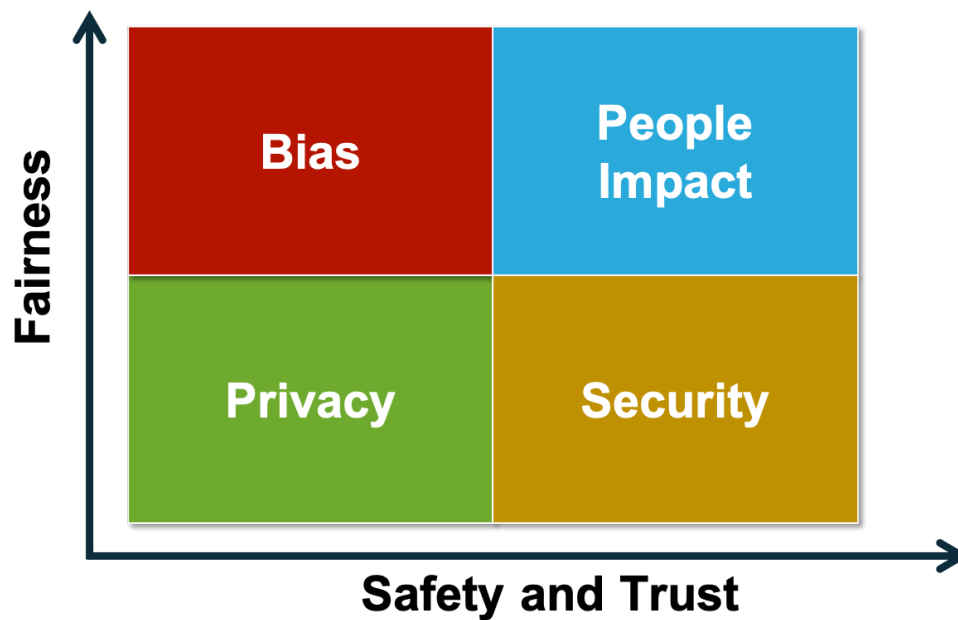


Figure 4
Fairness, Safety, and Trust Must Underly AI

Remember that AI is no longer a feature of HR tech; it's a core technology. Every HR platform will have some amount of AI processing taking place. The differentiation will be the quality, usefulness, and nature of the actions and recommendations the tools create.

Public vs. Hybrid vs. Private Cloud

If you're a large company, you likely have your own IT department. This means every time you buy an HR technology solution, someone is thinking about how it will integrate with your financial system, time and attendance system, badging, and other applications. Well, as the IT world moves to the cloud, a new level of complexity has been created. While it is easier than ever to integrate applications through programming interfaces, we now have multiple clouds to think about.

- **Public cloud:** These are the IT infrastructures provided by Amazon, Microsoft, Google, and IBM. They are considered safe and scalable because of their enormous scale. (However Capital One just experienced a major data breach from Amazon's cloud.)
- **Private cloud:** These are the IT infrastructures developed by your IT department. Banks, insurance companies, and retailers all have in-house systems that reside in their own

private areas. Workday, Oracle, Salesforce, and SAP have private clouds as well. Many are moving to public clouds to reduce cost and increase scale and availability.

- **Multi-cloud:** These are the applications that cross public clouds. When you buy a new HR system that is hosted on Amazon, and another hosted on Microsoft, you are running in a multi-cloud environment. Your Salesforce systems are in their cloud, Workday's are in their cloud, and so on. When your IT department wants to integrate data or develop a security agreement, it crosses cloud vendors.
- **Hybrid-cloud:** These are applications (real software systems) that load balance and share data between clouds. I am not aware of a lot of these in HR quite yet, but as software containers become more common (a technology to move applications from platform to platform easily), one could see an application running across Workday in HCM and SAP or Oracle in financials, for example.

While these may not seem like important definitions, they do represent the future of cloud computing. Each application vendor is considering these options, and there are dozens of new tech firms (including IBM) that help companies move applications between clouds. IBM's \$34 billion acquisition of Red Hat was a big bet on hybrid-cloud technologies going forward.

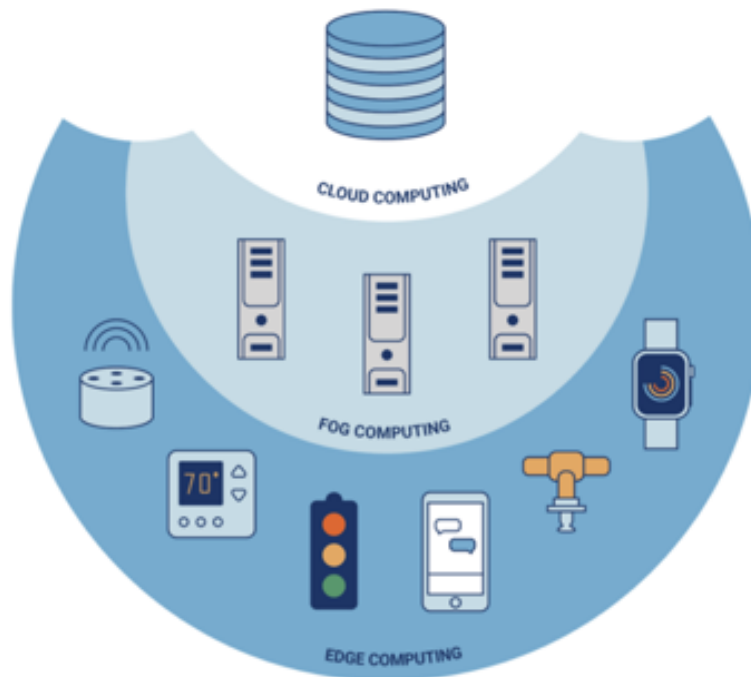


Figure 5
From CB Insights, "What Is Edge Computing"

Another developing trend is edge computing. This simply means moving data and processing closer to the locations where that data is actually generated for faster response -- which means back into your own systems (the way IT used to work). It again requires a hybrid architecture and is often used for high-bandwidth applications that are too voluminous for the internet. If you have a massive set of manufacturing or transportation applications, that data is likely to reside on local servers, which from there communicate to a hybrid or cloud application.

Today these architectural issues are not usually part of your tech selection process, but I want to make you aware of them because they will start to enter the vocabulary this next year.

Are We Getting a Sound Return from HR Tech Investments?

The final preface I want to mention is the enormous spending in this space. I frequently talk with companies that spent \$20 million or more on their new Workday implementation (or SuccessFactors or Oracle), and are then left with an annual cost of millions of dollars per year in recurring costs.

The cloud, which sounds so fluffy and nice, is actually a way to outsource IT, taking money that would be spent on your own internal staff and paying it to a software vendor. These software companies, in turn, either try to build their own massive data centers or in turn outsource the effort to Amazon or Microsoft. These intermediate players (the web services provider, the software vendors, the consultant) each have high margins, so you're paying a lot.

We are doing a study on this topic now, and hope to have it ready by next year – but I also want to point out that the never-ending spending on HR tech may peak soon. If we do have an economic slowdown, you may be forced to buy only what you need. And those who believed that their new cloud-based HCM system was going to digitally transform the company found out that wasn't really true.

I will write more on this potential change in the market. As I am flooded with briefing requests from new venture-backed vendors entering the market, I often scratch my head and wonder if all of them can grow. Here's my advice: if your employees don't see work-based productivity tools from these systems, be careful what you buy.

Given these issues as a backdrop, let me dive into the top ten disruptions I expect us to see throughout 2020.

1 Core HR Platforms Grow, Competing on New Talent and Experience Features

By far the most important and essential part of the HR technology landscape is the market for core HR platforms, which includes cloud-based HRMS, payroll, and core employee management systems. This market, which is well over \$8 billion in size, includes large vendors (ADP, Ceridian, Oracle, SAP, Ultimate, Workday) and dozens of mid-sized companies (HiBob, Sage, Zenefits, Gusto, BambooHR, Zoho, Namely, Paycom, Paychex, Paycor, BambooHR, PeopleStrong, Darwinbox).

To give you a sense of the growth in this market, ADP's revenues grew 6% on a base of \$14.1 billion, Ceridian grew almost 9% on annual revenues around \$800 million, ServiceNow grew 33% on a base of \$3.4 billion, and Workday's revenues grow 33% on a base of \$3.2 billion. In fact, all the core HCM vendors I talk with are growing.

Every company needs one of these platforms, and now that most are available in the cloud, they are rapidly expanding their offerings. Yes, these systems are core payroll and record-keeping systems, but today, as employees are more distracted and many work part-time, they must be more useful, productive, and engaging to employees directly.

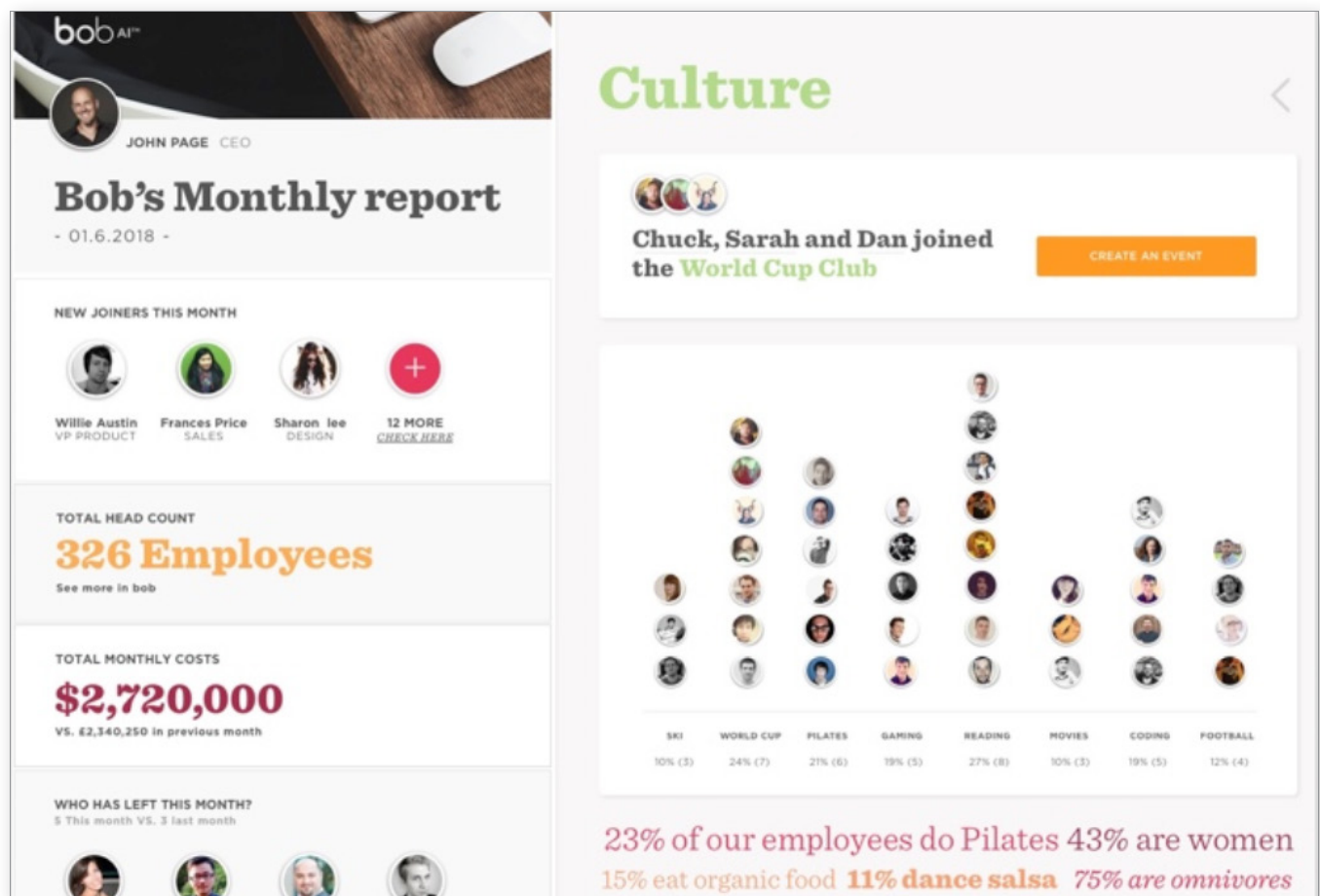


Figure 6
Bob Screenshot

Twenty years ago these were back-office systems designed to be used by HR managers, payroll clerks, and HR administrators. Over the last decade, they have become useful for employees, with user interfaces that offer self-service functionality to manage benefits, employee information, and various employee options.

Now, as workers spend more time on their phones and have even less time to learn how to use these systems, vendors are trying to make these systems into productive management and workforce tools that help employees get their work done. While most of us work in teams and on projects, none of these systems really support project-based work yet (other than ADP's new platform, which I discuss later), so there is a lot of innovation yet ahead.

Let me give you an example. One of the more innovative HCM platforms is a product called Bob, from a fast-growing company called HiBob. Bob is designed as a management platform first, HR platform second – so its entire design is focused on what information managers, employees, and executives need. And clients who use it now personalize it, calling it by its name.

The company is growing rapidly (600-plus customers), and it represents a new approach to core HR, one which I believe every major vendor will have to address. ADP, Oracle, SuccessFactors,

Ultimate, and Workday are all moving in this direction, but since their core functionality is designed for complex global companies, it is still complex to use.

Since most companies have lots of other systems (recruiting, learning, benefits, engagement surveys), corporate buyers are now also snapping up employee experience platforms (ServiceNow, PeopleSpheres, PeopleDocs, TI-People, and many others) in an attempt to create an easy-to-use employee interface that helps employees use the system for the moments that matter at work. To me, this is a disruptive change, because the core HR systems get pushed into the back office.

The questions to ask are these: For all the money you may spend replacing your core HR system with a new cloud platform, is it really going to make employees' work lives better? How will it integrate with the dozens of productivity, wellbeing, and benefits apps you buy? Does it support the operation of teams, gig work, and a highly mobile workforce? And is it flexible enough to accommodate GDPR and employment contracts in Europe, rapid changes in pay and work practices in Asia, local small business needs in India, and the many other regulatory issues around the world? In a broad sense, the core HCM market is moving as follows, and these big vendors are struggling to adapt.

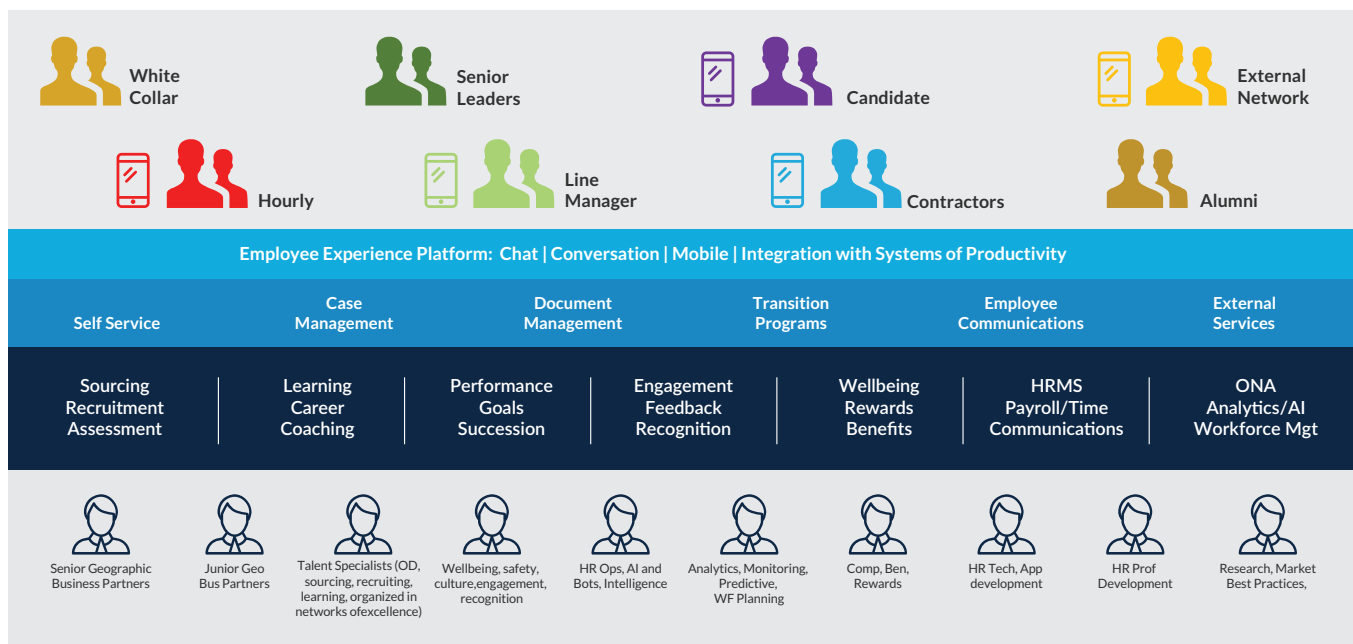


Figure 7
HR Technology Architecture: 2020 and Beyond

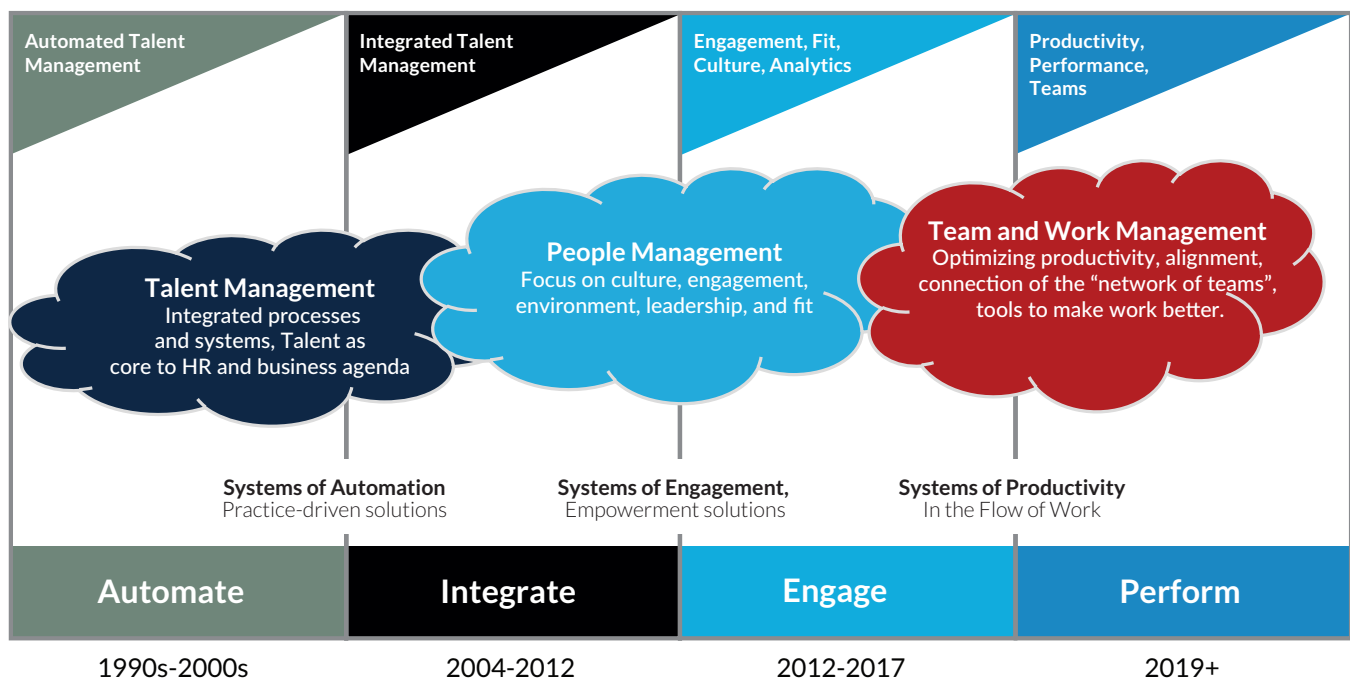


Figure 8
Evolution of HR in the Flow of Work

Ultimately the core HR platform market will continue to grow in 2020, but I think buyers are becoming more discriminating, as ease of use and productivity start to take on a bigger role. Yes, these systems are essential and must meet functional needs. But if they're hard to use, employers will have to buy another complex set of employee experience software to make them work.

General Trends among Core Vendors

All the core HCM vendors are essentially doing the same thing: making their platforms easier to use, mobile-ready, and starting to build more talent applications (recruiting, learning, performance management, engagement surveys).

Their challenge is that their core business (HRMS and payroll) is complex enough, so they typically have a hard time keeping up on all the innovation in talent applications (more on this in the coming pages). So they often buy smaller talent vendors and spread themselves thin. The answer? They want to become open platforms so their clients can plug and play with other apps.

- Oracle, after acquiring PeopleSoft, Taleo, and a series of smaller recruitment tools, is finally at a point where its integrated HCM suite is elegant, easy to use, and best of breed. The company has built at least five LMSs, and the latest one looks modern and easy to use. Oracle built its own well-being platform, self-service portal, and other innovative tools. This has taken patience and steady investment, and the company is now thriving.
- Workday continues to be the cloud leader, and now has hundreds of product managers building more talent features. These include enhancements to Workday Learning, Recruiting, its Skills Cloud and Talent Marketplace, and a major new user interface named The Workday People Experience. Not to be left behind, Workday also introduced People Analytics, an upgrade to its workforce management and gig workplace platform, and is opening up its entire platform to any custom application in its new offering, the Workday Cloud Platform.
- ADP introduced Next-Gen HCM, one of the most advanced architectures in HR. It lets companies model their organization as teams, hierarchies, or any combination of the two,

and serves as an application-enablement platform that lets users pick and choose functionality to add to the platform by plugging into a wide range of third-party apps. ADP also introduced new enhancements to its workforce analytics platform, ADP DataCloud, with uses AI capabilities to give users amazingly useful insights about their workforces by benchmarked data against ADP's massive data cloud) and delivers one of the most feature-complete mobile platforms. ADP is also in the middle of rolling out a major revamp of its payroll platform, which gives users rules-based payroll administration, real-time pay, and dramatic reductions in the time needed to manage payroll.

- SuccessFactors, the combination of SAP, SuccessFactors, Tableau, and other technologies, is focused on integration and ease of use among its highly functional talent software. SuccessFactors rebranded its system Human Experience Management (HXM) and launched a new chat-based interface and integrated Qualtrics to make it easier than ever for users and managers. SAP tells me this platform is totally open, so it can be used to access both SuccessFactors and other vendor technologies as part of the employee experience. Given SAP's massive industry experience and multi-language and payroll capabilities, this gives SuccessFactors a big play in the emerging employee experience market. SAP is also upgrading its entire payroll application to create more functionality for real-time pay and rules-based global payroll.
- Ceridian and Ultimate, larger mid-market providers, have done an amazing job of integrating a wide range of talent applications and both are now growing rapidly. Ceridian is one of Canada's larger payroll providers, and Ultimate is the dominant player in small and mid-market HCM in the U.S. Their steady investments in talent apps have paid off, despite the fact that they face many competitors in their markets.
- Infor, a company built around the acquisition of Geac, SSA, Cerpoint, and ultimately Lawson, has now built a highly integrated set of industry-focused HCM applications which have some very unique capabilities. Sage, which is now one of the largest providers of SMB accounting software, acquired Fairsail and is also focused on industry-oriented small business HCM. Unit4 is a similar company focused on service industries.

Imagine you are a manufacturer, and you want to allocate labor costs to various products. Or imagine that you're a healthcare company, and you need to manage careers in clinical roles, research roles, and finance and business roles differently. These and other examples lead companies to buy more integrated vertical HCM platforms. Infor, for example, which has an integrated HCM platform (coupled with ERP for healthcare, retail, and manufacturing) is growing at double-digit rates. I believe this is one of the next steps in this market, as cloud platforms mature and companies look for more industry-specific solutions.

- Namely, Gusto, Paycor, Paycom, Paychex, Zenefits (still going through a turnaround) are all growing quickly, representing a new generation of integrated payroll and HCM solutions for small companies.

The real challenge for all these providers is the ever-expanding world of talent apps, and their ability to be open and plug and play with hundreds of benefits, wellbeing, learning, recruiting, and other HR applications. But in this economy, they're all growing and often replacing simple payroll systems with tools every company needs.

ADP's Disruptive Move

ADP, the largest provider of mid-market payroll and HCM (over 800,000 customers, with more than 45 million people on its payroll platform), is now entering an innovation cycle that could disrupt this market in a significant way.

Last year I wrote about Lifion, ADP's next-gen HCM platform (designed on a graph database) that has been built out of a skunk works project in New York City. Well, it's being formally launched this year (the name to be determined) and it exemplifies where all the vendors want to go.

ADP's next gen HCM is a completely new, graph-database based system, designed as a modern, plug and play, public cloud architected system. It has some amazing features which will excite many companies, including the ability to model and administer any organization structure based on teams, deliver

goals and engagement surveys and any application plugins by team or hierarchy, and a completely open plug-and-play architecture for third party applications.

Not only is the new ADP platform an elegant, flexible, and open architecture, but it is also powered by the ADP DataCloud, which includes a vast database of jobs, payroll, and candidates build from ADP's more than 800,000 customers. DataCloud lets the ADP platform compare your human capital metrics against industry peers (by location and company size) and then make recommendations for change. I won't get into too much detail, but this is a very unique offering in the market.

ADP has also now fully integrated the functionality from TMBC StandOut into its HCM platform, so it includes employee assessment tools, a well-designed engagement solution, and management tips based on employee behavior and feedback. ADP's AI engine is massively powerful, and the platform can give you narrative recommendations when various parts of your company go out of range (i.e., when overtime is high in one group and retention is low in another group). It's a good example of where this market is going.

Incidentally, ADP's new payroll platform computes real-time pay without using a third-party application, and the implications of this are massive. You can pay spot bonuses, contract workers, or any other type of worker based on company policies and standards without custom coding.

Microsoft Enters the Market

The other vendor I want to mention here is Microsoft, which owns the Dynamics product set, LinkedIn, and Glint. While today Microsoft's products are not positioned as core HCM yet (there is a core HR product in the Dynamics suite of business applications), the company has woken up to the opportunity and is reorganizing itself to go after this market.

I will discuss LinkedIn and Glint in coming pages, and also mention the importance of Microsoft Teams and Microsoft Workplace Analytics. Together all these products make up a very competitive HCM offering, and since we all use Microsoft

technology for many things at work, I give them high odds to enter this space aggressively in 2020 and beyond.

Convergence Between Workplace Technology and HR Technology

And one of the most interesting changes taking place this year is the way Workplace productivity tools (Microsoft, Google, Slack, Atlassian, Facebook) are starting to blend with HR tools. Why? Because all the HR tools we bought as a destination in the past are being integrated into the flow of work.

Over the last 20 years, most HR systems were portals, apps, and destination platforms that employees visited to apply for a job, learn, change their address, or do some other HR-related task. Today, as we spend more and more of our working lives in productivity systems (i.e., Office 365, Slack, Workplace by Facebook), vendors are putting more and more of the HR tools into these systems. Chatbots, messages, and real-time notifications are appearing in these systems, bringing these worlds together.

One simple example will explain my thinking. I met with the CHRO of one of Coca Cola's biggest bottlers in Europe a few months ago and we discussed their platforms for performance management. She told me they looked at many of the hot tools in the market, and eventually settled on a SuccessFactors-driven system they developed to plug into Salesforce.com. Her reasoning? Since 90% of her employees' time is already spent in Salesforce, it made sense to let employees set goals, provide feedback, and do their reviews right where they already are. The results were a huge success: immediate adoption, tremendously positive feedback, and a massive re-engineering of their feedback and coaching process.

If the organization had launched a new system to do this work, it likely would have failed. This is "HR in the flow of work" exemplified, and it shows how workplace and HR technology must now come together.

Modeling the Networked Organization: New Platform Architecture Is Needed

Most leaders now realize that the hierarchical job model is useful for pay decisions and possibly for traditional careers, but it does not reflect the way we actually work. McKinsey research shows that more than 37% of companies are already using or experimenting with agile models of work. This means people are managing cross-functional teams, setting team goals, and valuing people based on skills and connections, not job level, title, or tenure.

This type of work model is very difficult to implement in a traditional HCM system. These platforms are built on relational or object-oriented databases, where the objects or tables represent long lists of transactions and these are linked to each other through joins. This database architecture,

which has been around for 50-plus years, was designed for transaction management, not complex network modeling. So none of the core ERP vendors have been able to build products that truly model the way we work today.

One of the potential solutions for this are graph databases. These are new products, pioneered by a company called Neo4j (there are now other vendors), which essentially store data so it can be represented in a network. They are vastly more powerful for modeling people in networks and can represent how people search for data and objects, how people communicate and build different types of relationships (peers, team-mates, bosses, subordinates), and essentially store the “graph” of the company as it evolves over time.

In a graph database, all objects are defined by their relationships. If you just look at the image below (a social network) you could imagine the many ways we could use this at work.

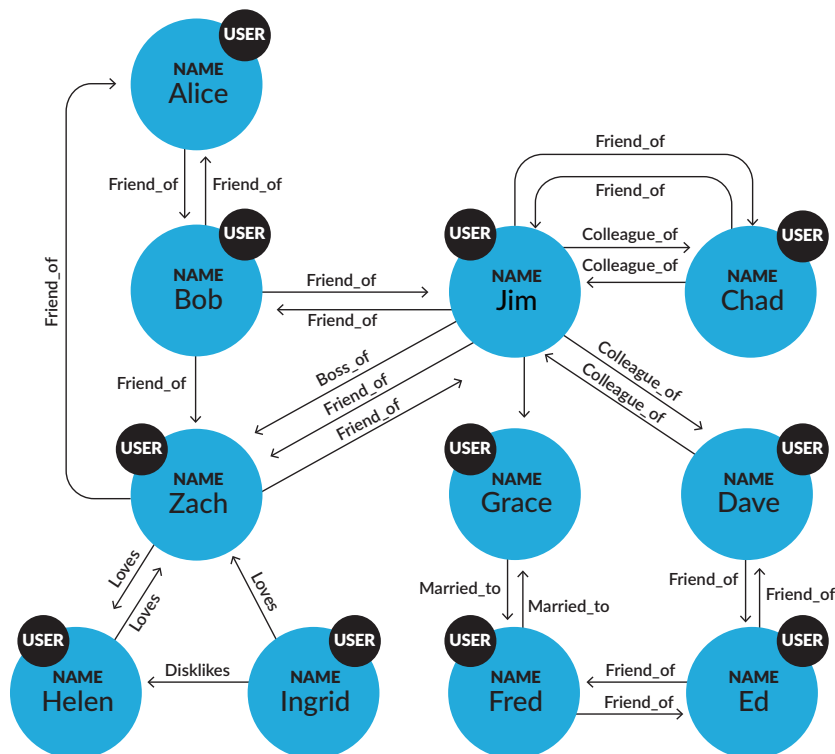


Figure 9
Modeling the Networked Organization: An Example

Such graphs could represent our insurance plans, managerial and peer relationships, who we send and receive emails from, our location, and dozens of other data elements we try to manage in the HCM system. One of our clients is now experimenting with a graph database of 70,000 of their employees and they are reaching the conclusion that the core ERP, while needed for payroll and record keeping, is far less useful than they realized.

I am digging into this technology and will spend much more time with vendors in the coming quarters. This type of technology, coupled with block chain identity management and security, could form the basis for an entirely new industry of HCM technology over the next five to ten years. Stay tuned.

2 Employee Experience Platforms Arrive: Technology Architecture Will Change

For much of the last decade, we have purchased and implemented HR technology in a fairly simple technology stack. There was the core HR system (HRMS, payroll, benefits administration) and then a tapestry of talent management systems we purchased around it. These talent management tools included systems for goal setting, performance management, learning management, compensation management, as well as systems for benefits administration, engagement surveys, and more.

What Figure 10 shows is a set of talent management applications (in the blue layer), each designed to meet the needs of different audiences and back-office HR and IT staff. The nature, type, and definition of these systems is changing, but in many cases they are now coming from the core HCM vendor.

ADP, Oracle, SAP, Ultimate, Workday, and most of the mid-market HCM players are now heavily focused on investing in recruitment, performance management, learning, and even engagement tools within their suite. The integrated talent management suite market almost vanished overnight (a few successful companies like Cornerstone continue to flourish) as core HCM vendors built or bought these tools.

But even as they reinvigorate their systems, it turns out the world really changed. Integrated talent management, as we defined it, is now becoming a back-office problem, and one could argue that much of this functionality now belongs in the HCM platform.

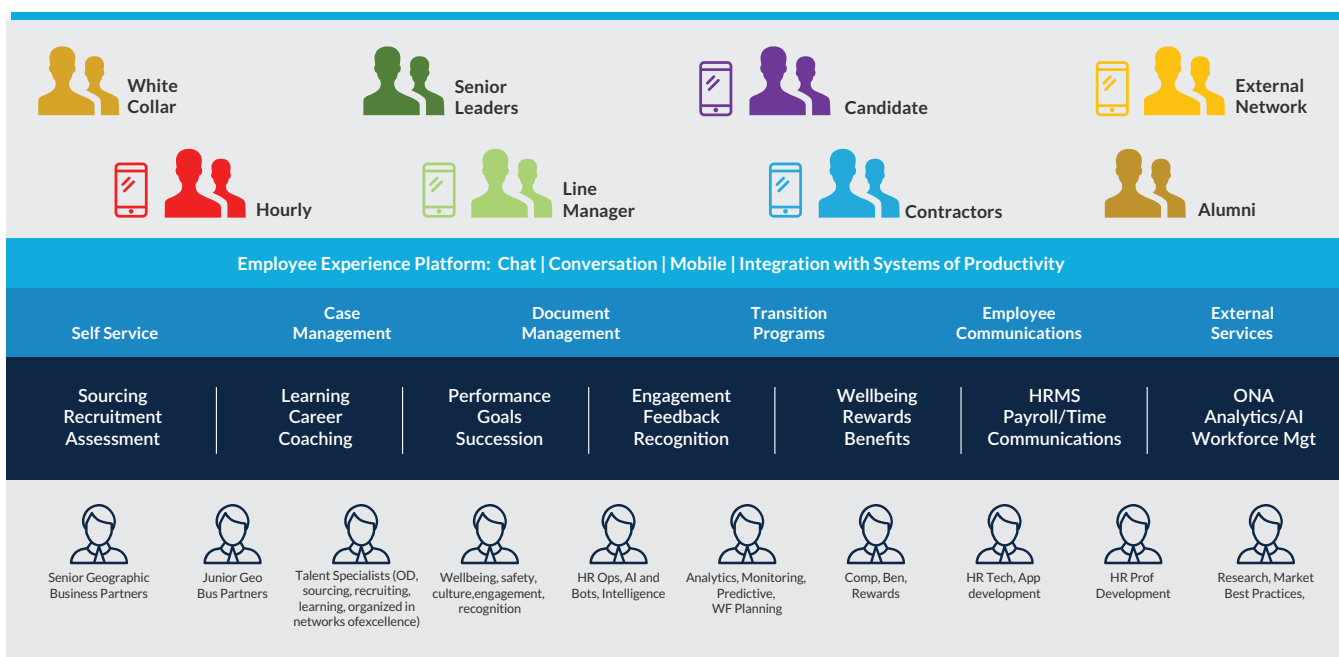


Figure 10
HR Technology Architecture: 2020 and Beyond

	The 2000s	Today
Focus	Talent Management	Work Experience
Goal	Integrated HR transactions	Improved employee experience
Systems	Single platform	Ecosystem of apps
Platforms	ATS, LMS, TMS	Team and work management
Work Model	Job models, competencies	People, projects, goals, feedback
Technology	Integrated data models	Microservices, chatbot, AI
Design	Processes	Experiences (interactions)

Figure 11
The Big Redesign: From Process to Experience

I'm not saying that all companies will use the talent management suites from their core HR vendor today, but many companies will. Workday claims that more than 1,000 companies now use its recruitment software, and SAP has more than 2,000 companies using its LMS or other learning tools. So this blue layer of the architecture is more competitive than ever, and as a result pricing is going down and niche vendors have to be more agile and innovative to survive.

What's really new about the architecture, however, is the red layers above. We now fully understand that no core HR system can do everything, so you are really building an "app-ecosystem" for your employees, and you will want some type of employee experience platform on top. Workday would argue this is the Workday mobile app; IBM would argue that this red layer is Watson, an entire suite of services that lets employees chat, talk, and interact with core HR systems.

ServiceNow, the clear leader in this space (with more than 1,000 HR customers), is now building and buying tools for chat, cognitive interfaces, and a range of other features that let clients build and deploy an easy-to-use system that embraces the moments that matter – without forcing employees to learn how to use the core system. This layer is where the new "holy war" for HR tech will take place⁵.

What's happening to these talent applications? They're all essentially splitting into two forms. One is the talent system of record, similar to how the LMS or ATS standardizes information in corporate training or recruitment. This is the level of functionality that belongs in the HCM system.

5. <https://searchhrsoftware.techtarget.com/news/252448535/New-tech-trends-in-HR-Josh-Bersin-predicts-employee-experience-war>



Figure 12
How Talent Management Systems Are Changing

For example, the enormous market for applicant tracking systems is now being subsumed into HCM platforms. All the major ERP vendors now offer applicant tracking systems, but most do not have advanced features for AI-based sourcing, video or AI-based assessment, and advanced advertisement analytics. Therefore, many companies are buying applicant tracking from their HCM vendors and then layering on top tools like Entelo, HireVue, Pymetrics, or Plum to create a more advanced recruitment solution.

Similarly, in learning, a company may chose to use the HCM vendor's core LMS but then purchase a learning experience platform and series of advanced learning tools to sit on top. I think this is a major shift in the talent management market, where much of the core recordkeeping for talent practices migrates into the HCM system while advanced innovations continue to flourish in new products.

Where do the employee experience tools go? They sit on top. Essentially now we have products like ServiceNow to design employee journeys and interactions and cases, products like

Bridge, Degreed, EdCast, Fuel50 or Gloat to build the talent experience, and back office systems like Workday Learning or SuccessFactors Learning to deliver back-office talent management.

We're in the middle of a transition, but I know that all the bigger talent management vendors are trying to adapt.

The pressure on HCM vendors has been tremendous. This fall, Workday introduced the Workday People Experience, an intelligent new tool which creates customized user journeys to make the system easier to use. SuccessFactor introduced Human Experience Management, a whole new user interface designed to enable journey design and chat bot interface to SuccessFactors, SAP, and other third- party systems. Oracle has introduced the Oracle Assistant, a chatbot-based interface to its HCM platform as well as a new employee self-service portal. And companies like Ultimate with its acquisition of PeopleDocs), ADP and its Next Gen HCM, designed for teams with chat interface and an open platform for third party apps, and Ceridian are all working on similar interfaces.



Figure 13
Talent Experience vs. Employee Experience

App Marketplaces

Finally, buyers have to think about where all the new innovative applications will go. As one of the clients I met with put it, HR departments are turning into “app marketplaces” where employees use various applications in the framework of a single service delivery environment. Vendors like ServiceNow, PeopleDocs, Ti-People, and PeopleSpheres want to be this single point of contact, sitting in front of the HCM platform. The HCM vendors (ADP Next-Gen HCM, Workday Cloud Platform, SAP Application Marketplace, and others) now have no choice but to make themselves open to these systems as the demand for new employee experience-driven applications continues to explode.

3 Talent Management Tools Expand: Talent Experience Platforms Emerge

Which brings me to the enormous, exciting market of talent applications. In 2020 the marketplace for talent applications has exploded, and many new categories have emerged. The following chart shows many of the new categories that have been created.

If you look at Figure 14, I've tried to group them by category, but of course I can't possibly include them all. These new talent applications (the word "talent" is probably not even the right word any more) are focused on improving the employee experience from top to bottom – aiding recruitment, performance and goal setting, learning, career management, rewards, wellbeing, and ultimately work itself.

I'm amazed at the innovation and creativity among new vendors in this market. The following slide shows only a small number of the new vendors which have entered the market in the last five years. Many of these companies sell applications to mid-market companies, but over time as the mid-market HCM suites evolve, they will all focus on innovation and next-generation features.

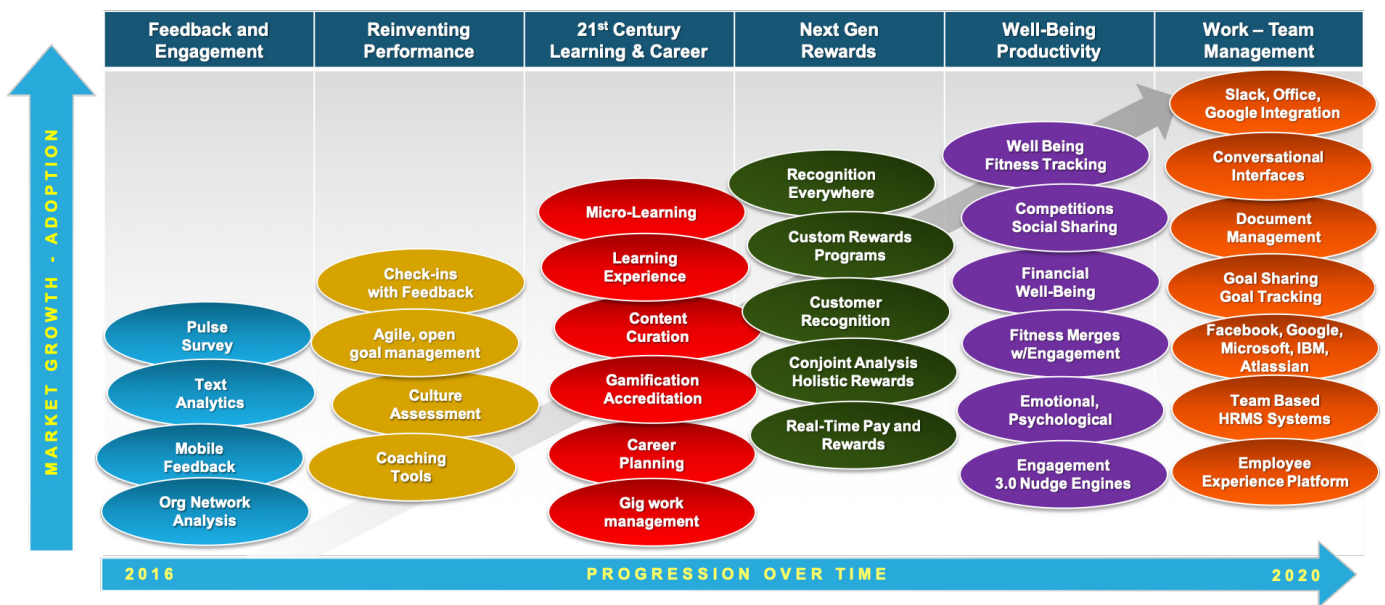


Figure 14
2020 and Beyond: A New Set of Talent Applications

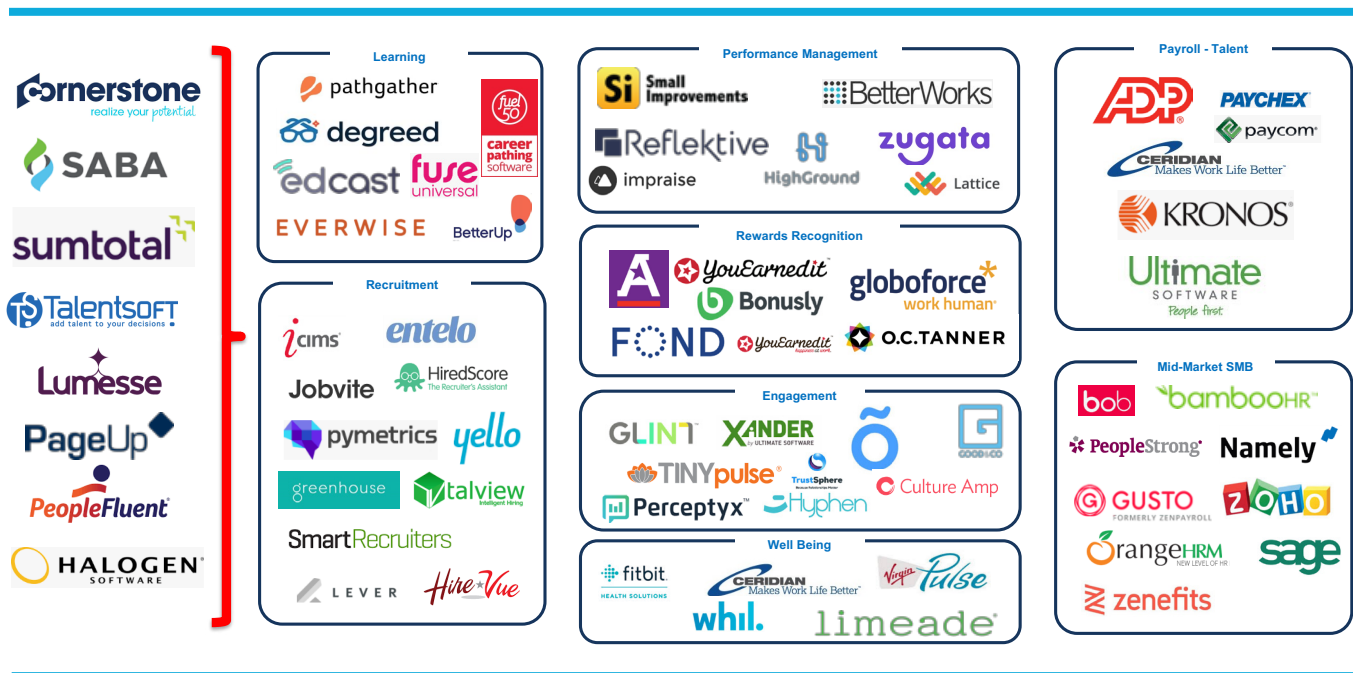


Figure 15
New Vendors Disrupting Market

In each segment, the innovations are unique. Briefly, here are just a few of the innovations in each segment.

There's no way the large HCM vendors can possibly innovate in all these areas. As the list of vendors above demonstrates, there are many innovative companies building these systems, and many have VC funding of \$10M or more. I believe together they make up what I call the new talent experience platform market, which will eventually converge over time.

AI is a big part of this new space. Since these new vendors are often starting from scratch (and they are assuming that the talent system of record is in the HCM platform), they immediately start building AI-based features.

RECRUITMENT	LEARNING AND CAREER	PERFORMANCE MANAGEMENT	REWARDS AND RECOGNITION	WELLBEING	WORK MANAGEMENT
AI-based sourcing, video and social assessment, advanced analytics, behavioral assessment, gig work management, contingent work management	Learning experience platforms, micro-learning platforms, MOOCs and content libraries, VR and AR learning, career portals and career development, gig work management	Continuous performance management tools, agile goal setting, team management, ONA network analysis, AI-based development planning, integration with learning content, online coaching	Social recognition, social rewards, agile rewards, real-time pay, pay and reward benchmarking, rewards customization, conjoint analysis of rewards	Behavioral improvement platforms, wellbeing education and training, financial fitness support, coaching, games and competitions, ERGs, diversity and inclusion training, analysis, and tools	Agile goal setting, team collaboration, messaging, document and video sharing, AI-based coaching, integrated learning and support

Figure 16
Market Segment Innovations

For just a few examples:

- Glint, CultureAmp, Xander and Compass give managers coaching based on direct feedback from engagement surveys.
- Pymetrics can assess mental capabilities and skills through AI-based games, dramatically improving hiring.
- Zugata (now owned by CultureAmp) can assess and analyze functional and technical capabilities through surreptitious emails to peers. Waggl can now crowd-source engagement and feedback surveys, almost instantly telling you what people are thinking.
- Butterfly.ai can coach managers based on behavioral cues and real-time feedback.
- Volley can read documentation and generate learning assessments automatically.
- Edcast can recommend content based on role and experience of others.
- BetterUp can identify the best coach and monitor your coaching process based on your self-assessment and work experience.
- HireVue can assess candidates on a video interview through facial expressions and language.
- Filtered can chat with learners to improve learning outcomes based on content and learning experiences by others.
- Textio can improve job descriptions by monitoring language which is most unbiased and best fit for similar jobs.
- Mya can talk with candidates to screen and assess them automatically.
- IBM Watson Candidate Assistant can recommend jobs and careers for candidates based on their experience.
- Orderboard.ai and Entelo can find candidates based on their social profiles and external experiences



Figure 17
AI Has Arrived - And It Works

I do not believe AI is a feature, but rather a set of technologies that all vendors will use over time. Every vendor has to consider what data it wants to capture, what data it wants to leverage from the HCM platform, and what data it wants to share or integrate with its peers. This is why it's now so important to have an HR or IT architect involved in your decisions. All these systems have to somehow work together.

We are also now learning that AI is far more complex than people thought. Take natural language processing, for example. Any vendor can leverage algorithms from IBM, Google, Microsoft, or Amazon through their web interfaces, but it's quite tricky to make them work well for a particular need. Glint, for example, took several years to build its NLP to identify moods and trends in employee feedback. Buyers need to look for vendors that have tuned their AI for their particular applications, and it's worth talking with references to see how well it works.

We also now know that the biggest challenge to AI is not just the algorithm, but also the quality of the data. More than 60% of the executives recently surveyed by Deloitte said they do not have the quality of data they need for AI to operate well. If your HR data is not consistent, clean, and well defined, the AI may or may not work well.

In the case of IBM, the company is trying to build out its own family of talent applications, including IBM Watson tools for assessment, career planning, coaching, salary planning, and interface with the HCM platform. IBM's CHRO, for example, told me that its use of AI internally has had a dramatic improvement in employee career management and much more fairness in salary administration. The system now recommends career moves and salary changes based on patterns of success within IBM, demand in the outside market, and demand for skills inside the company. Nearly any company can now avail itself of this type of technology in the market that has emerged.

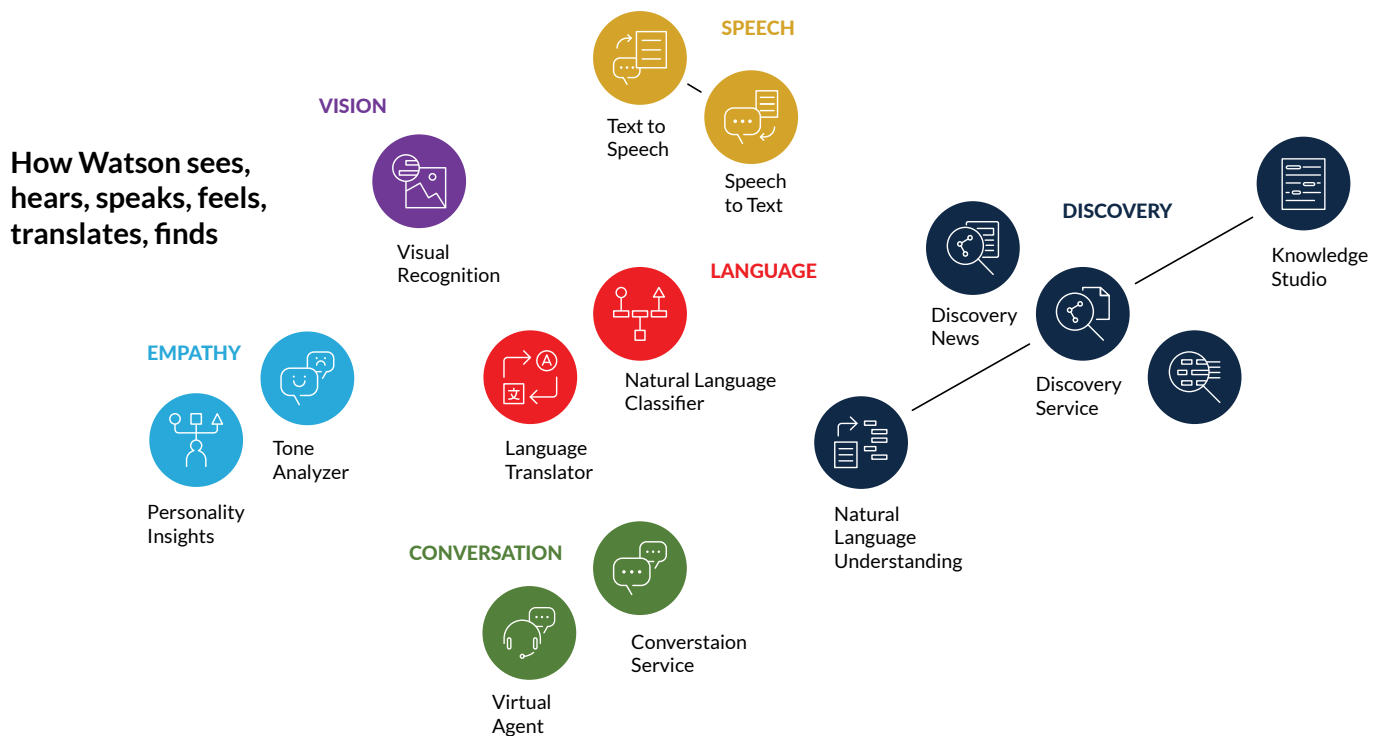


Figure 18
IBM Watson Applies AI-Based Algorithms

Growth in the HR Systems Architecture Function

With all this change in technology and architecture, we have to wonder who in HR is going to worry about all this? Well interestingly enough, the HR systems architecture team has become more important than ever. In most companies the IT department cannot possibly keep up with all this, so they need an HR-IT team to scan the landscape, evaluate vendors, and develop a long-term architecture. The Sierra-Cedar 2019 study found a 52% increase in this role. If you don't yet have such a team, it is something worthy of focus. The need can often be filled by one or two people with experience in HR and learning architectures and tools.

One of the companies that has done this exceedingly well is Deutsch Telecom. The head of their architecture team is both a senior IT expert and also a senior business transformation consultant. He has developed a series of employee personas, use cases, and global process guidelines – from which he evaluates and selects technology.

Talent Experience Platforms Arrive

If you look at the chart below, you can see we really do have a new software paradigm today. Rather than focus on one system of record for talent, we need software that fits into the flow of work for each employee.

To accommodate this, a new set of vendors (Bridge by Instructure, Phenom People, Fuel50, and others) are building talent applications that focus directly on the talent experiences each employee has at work.

A talent experience might involve career planning, looking for a new assignment, finding an expert, or evaluating current pay. These are questions that typically could be solved by a talent management system, but weren't easy to do. The reason? *Talent management platforms were designed for HR; talent experience platforms are designed for employees.*

The next generation of integrated talent suites are going to look like workflow tools, productivity tools, and consumer apps that help employees manage their career. They also have to be useful for HR to set up, load, administer, and run reports, but their main user is the employee, and this changes the design. A good example is the career page for Bridge.

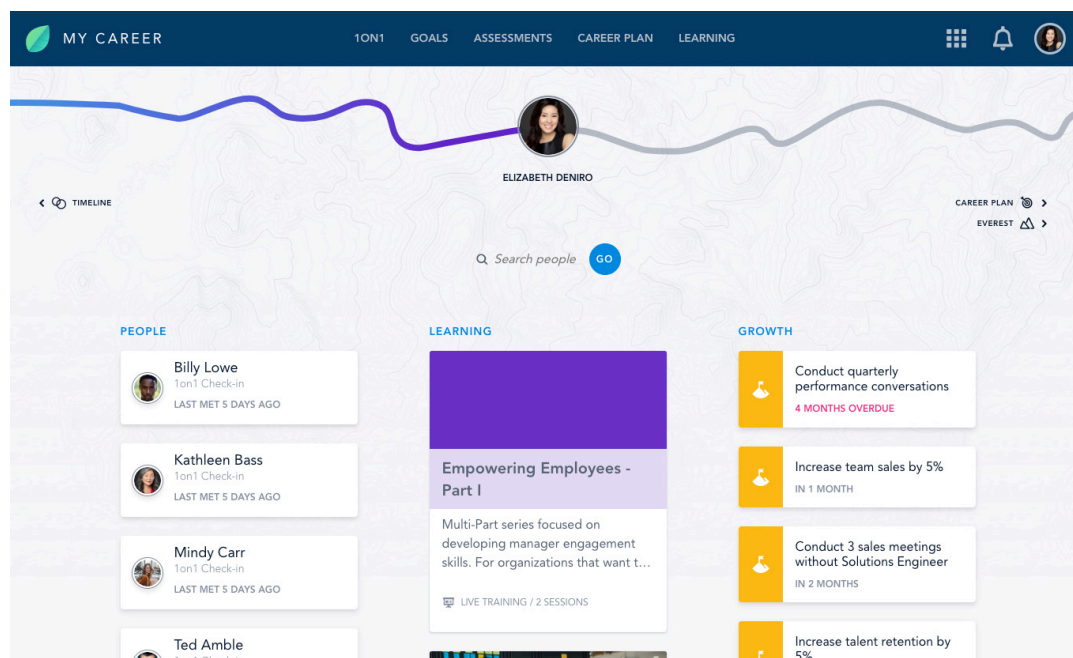


Figure 19
Bridge Career Screenshot

As you can see in Figure 20, this page takes the form of a journey and it prompts the employee to create a plan for growth. Rather than give the employee a series of tabs to find things to do, it gives them a timeline to make sure their entire talent experience is captured, visible, and easy to understand.

I won't cover all the vendors making this shift, but I do believe that this move from technology “designed for HR, useful for employees” to “designed for employees, useful for HR” is a tectonic shift. Vendors like Saba, Cornerstone, SuccessFactors, and even Workday and Oracle are going to have to adapt.

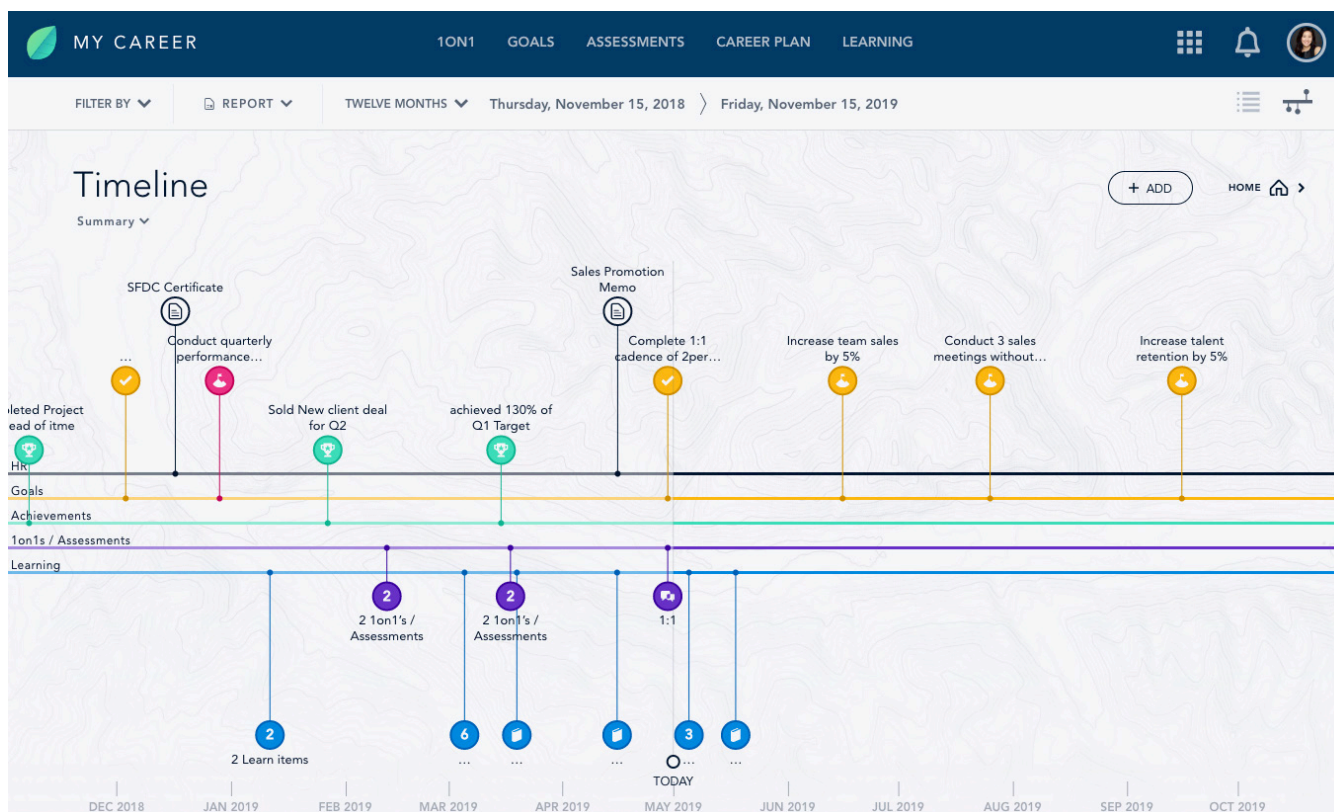


Figure 20
Bridge Career Screenshot

4 The Employee Experience Market Is Now Real and Changing Everything

The fourth disruption, which is one that came out of nowhere, is the enormous focus on the employee experience. This is a new paradigm sweeping across HR and leadership -- doing everything we can to make work easier, more productive, and more meaningful for workers. (Note this also means contractors and contingent workers.)

After many conversations with hundreds of talent leaders, I've realized this is an enormous new way of thinking about business. Rather than think about product or customer first, we think about employees first, since they are the ones who build the product and serve the customers.

What companies have found, in the middle of our digital transformations, is that their organizations are filled with bureaucracy, difficult to use systems, and clutter. And all the HR programs like diversity, inclusion, career development, onboarding, and wellbeing are all part of the experience -- so in many ways we can reframe all of HR with this lens.

Over the years I've studied most of these topics, and they fit into the model below, which is an extension of the Simply Irresistible model I developed at Deloitte.

As you look at this picture, you see that nearly every management practice is involved, so this theme reaches across all of HR (and IT and finance). Today many HR teams have a VP of employee experience or an employee experience program to deal with these issues.



MEANINGFUL WORK	HANDS-ON MANAGEMENT	PRODUCTIVE ENVIRONMENT	HEALTH & WELLBEING	GROWTH OPPORTUNITY	TRUST IN LEADERSHIP
Autonomy	Clear goal setting	Flexible work environment	Safety and security	Facilitated talent mobility	Mission and purpose
Selection to fit	Coaching and feedback	Recognition rich culture	Fitness and health	Career growth in many paths	Investment in people, trust
Small teams	Leadership development	Open flexible work spaces	Financial wellbeing	Self and formal development	Transparency and communication
Time for slack	Modern performance management	Inclusive, diverse culture	Psychological wellness and support	High impact learning culture	Inspiration

Figure 21
The Complete Employee Experience (an expanded version of Deloitte's Simply Irresistible Organization™ model)



Figure 22
HR in the Flow of Work: Moments That Matter

ATS/RECRUITMENT SYSTEM	ONBOARDING SYSTEM	PERFORMANCE MANAGEMENT SYSTEM	LEARNING SYSTEM	HR SELF-SERVICE SYSTEM
Candidate assessment, interview process, job offers, background checks, employment contracts	Onboarding, transition management, initial job assignment, training	Goal setting, coaching, feedback, review, assessment, salary review, bonus, raise	Career planning, career transition, certification, compliance, on- the-job training, support	Family situation change, leave, exit, promotion, new role, new city, new benefits, alumni management, ERGs

Figure 23
Where Moments That Matter Are Implemented

Shifting from Transactions to Moments or Interactions

While this word is quite broad, the real change is shifting our thinking from global processes to employee journeys and employee interactions. In other words, all the efforts we did to harmonize global processes as we purchase technology are no longer enough.

If we reframe the problem in terms of employees, then we segment the workforce into moments that matter or employee personas and from there design platforms, applications, and service delivery teams to meet these needs.

In addition to forcing the service delivery teams to operate in cross-functional teams (changing the nature of the center of

excellence), we now need to think about design thinking and need software tools that let us model, design, and instrument these experiences. It means HR has to operate in the flow of work.

From a tech standpoint, we need platforms that include process design tools (usable by HR people, not just IT people), case management, knowledge management, and intelligent AI-based chat.

Consider the experiences above. Each of these moments is a complex workflow in itself. Most employees experience these moments at various points in their careers. Today we implement these moments or experiences in standalone systems.

As you can see, each of these moments are handled in different parts of the back-end systems (some in the HCM platform, some in other tools), and we don't want employees jumping from tool to tool to do their work. So the new generation of experience platforms is really disrupting the market.

The vendors focused on this area are growing explosively. These include ServiceNow, PeopleDoc (now owned by Ultimate Software), PeopleSpheres, SaplingHR, Deloitte, HonoHR, and all the HCM platforms. Workday, Oracle, and SuccessFactors are looking at this market and building better employee experience front-ends, but since they aren't as focused on heterogeneous integration, they simply aren't enough.

These new systems include integrated case management, document management, process management, and lots of security and profile integration so they can be used to order a new PC, change your desk location, and invoke transactions that cross between HR, IT, and finance.

I've talked with almost a dozen CHROs who spent many millions of dollars on a replacement core HCM system, only to find out that the employee experience was missing many things, so they needed a new layer of software on top. These new employee experience platforms are not only good HR self-service systems, they also include chat-bot interfaces; deep integrations to the HCM, ERP, learning, and recruitment systems; and development tools for monitoring and transaction management features as well. In a sense, they are a new level of middleware, designed to make it easy for the HR department to design moments that matter and then implement them for employees.

There are many specialized vendors who fit into this interstitial space. Consider GuideSpark, which has built one of the most integrated systems for employee communications; or EnterpriseAlumni, which has built an integrated solution for management of alumni; or Grove, which has built an experience platform for ERGs and other projects; or Sequoia and its benefits offerings.

I also see enormous growth in end-to-end career management offerings from vendors such as Gloat, Fuel 50, and Bridge that build career experiences and internal talent marketplaces. These are very important technology providers who specialize in unique experiences for employees, and they need a place to fit. I believe

more and more big companies are going to want to use these systems, and they need a platform to bring them together.

Designing Employee Experiences

One of the biggest issues in this area is around segmenting workforces and design the relevant experiences when the back-end HCM systems are so rigid.

For example, think of an employee onboarding program in a big company. There are dozens of types of onboarding experiences, based on job, tenure, level, location. Each has a combination of IT, location services, HR, and financial transactions that must be completed. Some of these interactions can be done before hire, some are done on an employee's first day, some during the first week or first month. In a sense, these interactions then should connect into the employee's goal setting, career development, benefits administration, and other talent practices.

Today this type of cross-domain experience is left to the HR department to figure out. Specialized providers like Silkroad have built an entire platform designed for this particular problem, but is Silkroad the best platform for every such cross-functional interaction? Maybe or maybe not.

I think the emergence of platforms such as ServiceNow, PhenomPeople, Silkroad, and other new talent experience platforms means companies can start to think about experience design as a new role in HR. Workday's upcoming new employee experience interface will help with this, but its solution (as well as Oracle's employee service portal) is designed primarily for its own application, not integration with many back-end systems.

One of the interesting vendors in this market is Mercer. Mercer, which is perhaps the deepest and most expansive HR consulting firm (they have experts in every aspect of HR, from diversity to pay to service delivery to analytics), has partnered with CrunchHR, a unique analytics company focused on HR, to help a company identify the personas implicit in the organization.

Consider this: Imagine if you could look at all the demographics of your workforce and find the clusters of people who are alike. People in the same role, tenure, background, location, or career path. Then you as an HR professional could use these personas to build the experiences these people need to make their work lives better. This is where Mercer is going and I think it's a good model for many to follow.

The Role of AI

Perhaps the biggest change here will be the eventual role of AI. IBM's global HR organization has configured Watson to be the front end for managers, and HR leaders claim the Watson-based interface generates over 95% employee satisfaction for a wide range of employee needs. IBM has people monitoring employee queries and building cross-domain experiences

as a regular part of its HR function. The result? A dramatic improvement in managerial and employee service, and a steady reduction in the number of HR business partners needed.

I met with a startup called Jane.ai which is building a completely open, cognitive system that will interface with transactional systems, documents, and process maps to do the same. WalkMe, an amazing product that is positioned as a digital enablement tool, actually does this also. It monitors employee activities in various applications and suggests improvements. All these types of products sit between transactional system and employees – so they are all really employee experience systems.

Could Workday, Oracle, SAP, or ADP build this type of solution? Absolutely they could, but these vendors are very focused on building their own ERP-like solutions (as well as payroll) and they want to provide these services through open APIs. All of

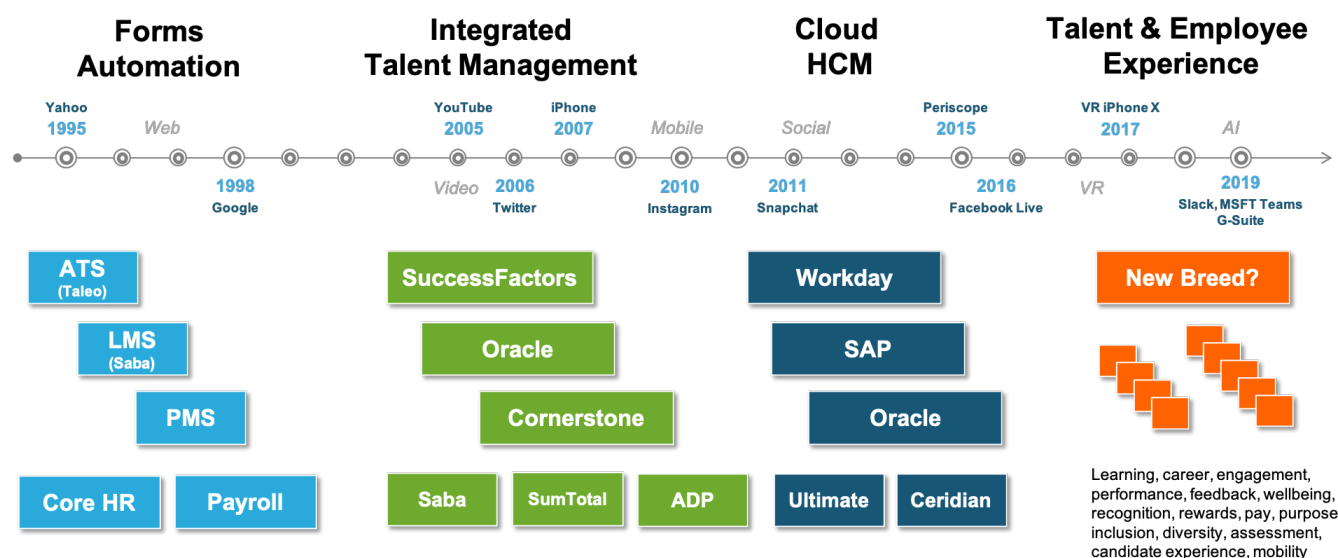


Figure 24
Incumbent Vendors Are under Attack

the HCM vendors now offer open platforms (Workday is now aggressively opening up its platform and finding partners), but it's really up to the customer to bring it all together.

I'm not going to try to predict how big this segment becomes, but I do see it as a disruptive change in the market. I spent a few days at the ServiceNow user conference earlier this year and was amazed to see that the company has more than 20,000 customers running its IT service-management tools, and more than 1,000 already using the tools for HR. Clearly this is a juggernaut, and as companies adopt these tools they bring their users away from the core HCM system, threatening the incumbents.

A New Service Delivery Model: Organizing for Self-Service

Finally let me add one more important point. The employee experience extends well beyond HR. When I can't get my computer to work, it doesn't matter how well my payroll system works – I'm not happy. When my expense reimbursements are late or my badge reader fails or I lose my phone – I'm frustrated. All this is part of the employee experience.

This is why almost 55% of companies merge their HR service centers with their IT service center, meaning the two should use the same tools. Most employee experiences involve talent-related issues, IT issues, and often finance all in one.

IBM and Verizon, for example, now have cross-functional solution centers to help employees with transitions, leave, management issues, and employee performance or grievances. These solution centers need tools to monitor the incoming inquiries, create standard responses, and update the AI or self-service portal. The next generation of employee experience tools will monitor employee interactions and give HR information on activity, just like we do for customers.

Let me also add that when you really think about this as a holistic problem, you'll design better solutions. I visited Facebook recently and was surprised to find out a whole range of employee experience programs that bring HR and IT together. Engineers who commute to Facebook's busy offices have free valet parking, for example. The technology service desks, which are everywhere, will quickly replace any failing PC or phone without question. The whole company uses Workplace by Facebook for support, and there are chatbots and service agents 24 hours a day to help you with any problem. And all IT and HR related service staff are cross trained.

This should be your strategy – think about employee experience as an end-to-end problem, and that will enable you to select technology in partnership with IT and finance. This, by the way, is one of SAP's big themes in their newest focus on SuccessFactors in the integrated enterprise. SuccessFactors, Concur, and all SAP's other tools create an integrated approach to end-to-end workforce management.

5 Employee Listening, Engagement, and Culture Tools Move to Action Platforms

Only a few years ago I thought the engagement survey market was a bore. Boy, are those days over. Today we have entered a world where companies really want to build an employee sensing system as good as the one they have for customers and prospects. (HR is about 10 years behind marketing in this area).

Four years ago, I wrote the article “Feedback is the Killer App⁶,” and at that time, we were all just getting comfortable with the idea of transparency, pulse surveys, and a more continuing listening process at work. In the interim, almost a third of companies have now implemented some form of pulse survey or open feedback system, and these add tremendous value.

It’s amazing how quickly the market players changed in just a few years. A decade ago, companies like Kenexa, Towers, AON, CEB, Gallup, and other legacy companies did annual engagement surveys for a very high price. Companies bought these services, waited months for results, and primarily focused on year- to -year benchmarks with somewhat limited actionable information.

In the interim, an enormous market of pulse and real-time survey tools emerged Perceptyx, TinyPulse, CultureAmp, Glint, Kanjoya, Waggl, Questback, Qualtrics, SurveyMonkey are among the vendor players. These tools have been transformational to businesses because they immediately enable managers and employees to see what people are talking about, and then, using text analytics and sentiment analysis, find outliers, poor management behavior, safety, theft, and other issues.

This is a juggernaut we cannot stop. Eventually every big company will have some type of internal “Glassdoor” to help

people talk about what’s on their minds. One of the world’s largest airlines now does this through mobile apps and its flight attendants can immediately provide feedback on airline issues, compliment their peers, and provide operational feedback in near real time. Why wouldn’t every company do this?

During this transition, the market shifted from a focus on I/O psychology to a focus on raw technology. As a result, some vendors got left behind. Kenexa, which had old technology, was sold to IBM, which in turn shut down the operation. CEB sold off its engagement business when the company was acquired by Gartner. Gallup, Wills Towers Watson, and AON are trying to keep up; Mercer acquired Sirota. The technology war keeps getting hotter.

- Glint, for example, integrates data from many types of surveys into one view of the enterprise and is launching its integrated performance product.
- SurveyMonkey has now aggressively entered the HR market, and already has thousands of companies using its tool, which is both easy to use and directly integrated with many core cloud systems.
- UltiPro Perception is Ultimate’s next version of Kanjoya, and gets smarter every day.
- Waggl, a pioneer in open, employee-curated listening tools, can capture employee voice in near-real time.
- CultureAmp, one of the leaders among tech and mid-sized companies, acquired Zugata, a system that enables 360 feedback using AI-driven surveys.
- Perceptyx, one of the leaders in enterprise-scale analytics and surveys, just received equity funding and is going after Glint for the high end of the market.

6. <https://www.forbes.com/sites/joshbersin/2015/08/26/employee-feedback-is-the-killer-app-a-new-market-emerges/>

Engagement 1.0	Engagement 2.0	Engagement 3.0
<i>The top-down annual engagement survey</i>	<i>Pulse surveys with intelligent sensing</i>	<i>Intelligent nudges, Focus on everyone</i>
Once per year. Focus on management. Benchmarked annually. Rigid questions asked year after year.	Agile surveys as needed. Pulse on regular basis. Feedback on mobile or apps. AI-based action plans. Immediate feedback.	Many sources of data. Recommendations driven by nudge and suggestion. Open to HRMS, ONA, and other behavioral data.
Focus on benchmarking.	Focus on feedback.	Focus on behavior change.
<i>Survey technology.</i>	<i>Web, mobile, analytics.</i>	<i>AI, nudges, real-time sensing.</i>

Figure 25
Employee Engagement Market Evolves

Action Platforms Are Next

This market has evolved in three distinct phases.

We've gone from annual surveys to pulse and open feedback tools, to what I call "action platforms." Now, instead of asking HR managers to look at reports and communicate results, the systems actually interpret the data (and natural language) and directly send nudges, suggestions, or action plans to managers.

Glint, for example, now has Manager Concierge, a dashboard that tells managers what to do when their metrics fall behind company norms. CultureAmp provides crowd-sourced suggestions to team leaders to help them learn from other CultureAmp customers about what will better engage their teams. And Humu sends weekly or bi-weekly nudges to employees, coupled with similar ones to managers, to help teams and individuals improve various levels of happiness.

Categories Starting to Converge

While all these tools are expanding, another convergence is taking place.

Consider this: Employee feedback and surveys are really just in a broad category that encompasses annual surveys, pulse surveys, open feedback, performance management conversations, exit surveys, kudos, and social recognition. So all these different forms of feedback are all related.



Figure 26
The Market Is Starting to Converge

Consider the chart above. These four categories of software all collect feedback and alignment” information in different ways:

- The performance tools focus on feedback around goals
- The team management tools focus on feedback around projects
- The engagement tools focus on feedback driven by HR
- The recognition tools focus on feedback as thanks and recognition.

The companies in each of these categories are all growing, but they’re all eying each other. This year CultureAmp acquired Zugata. YouEarnedIt (recognition) acquired Highground (performance), and the private equity firms are seeing opportunity. For instance, Vista Equity invested in YouEarnedIt, now called Kazoo.

I am not saying this will all converge quickly, but I do know that BetterWorks is investing in a pulse survey system; SuccessFactors now has Qualtrics; GloboForce (now called WorkHuman) sells performance management software. And Glint made a formal introduction of an end-to-end goal management, performance, feedback, and action platform.

You as a buyer still have many options to consider, and many of these tools will be throw-away when a more integrated solution appears. But today, this category of software is a robust and important category in itself – collecting employee experience data in many ways to help managers run the company better.

AI Enters This Market, Too

I have to mention AI here as well. IBM uses sensing and AI technology to monitor internal bulletin boards and communications and can immediately find areas of risk around the world. Many financial services companies now use ONA tools like Trustsphere, Keen, or Microsoft Workplace Analytics to monitor conversational stress which may result in fraud or bad behavior. Microsoft’s system even analyzes one’s own work behavior and gives you feedback to help improve your own scheduling. It even recommends skipping meetings if it thinks you’re wasting your time. And anonymous real-time feedback tools like Hyphen, Blind, and Waggl are still growing in popularity.

I used to believe that the ERP vendors would build this kind of infrastructure, but somehow they just don’t have time.

So over the next year, we will see lots of advanced sensing and feedback software hit the market, much of which will be embedded into the performance management tools. I think this technology has now become an essential part of your HR tech architecture.

Feedback Architecture

Let me briefly talk about feedback architecture. This is not a survey problem but a sensing and data collection problem, and it requires a holistic view of where all this employee data is coming from.

The survey part of employee feedback occurs in many ways. As the following chart shows, there are at least six types of surveys companies use today.

Just bringing these together into an integrated picture is hard. Glint is the first vendor that has introduced cross-survey analysis tools. But now it goes further. We are capturing lots of other data that directly impacts engagement, and it moves into the area of productivity and wellbeing.

I just met with an executive whose company captures employee email metadata (who is communicating with whom), employee badge data (location, time of day), grievances (employee complaints), accidents, and theft and compliance – all in one big database. How did the company do this? They're using a graph database. The CHRO told me they have already identified call center productivity drivers, retention drivers, and management tips never understood before. And now this is considered the employee engagement database, not just survey data.

Now, most companies won't be doing this for years to come, but I wouldn't be surprised to see vendors move in this direction quickly. Vendors like Visier, Workday, SAP, ADP, and Oracle have enormous cloud-based analytics platforms now, and most are opening them up to new data for applications like this. So think about your pulse survey and engagement strategy as a multi-year journey into employee listening, and you'll be moving in the right direction.

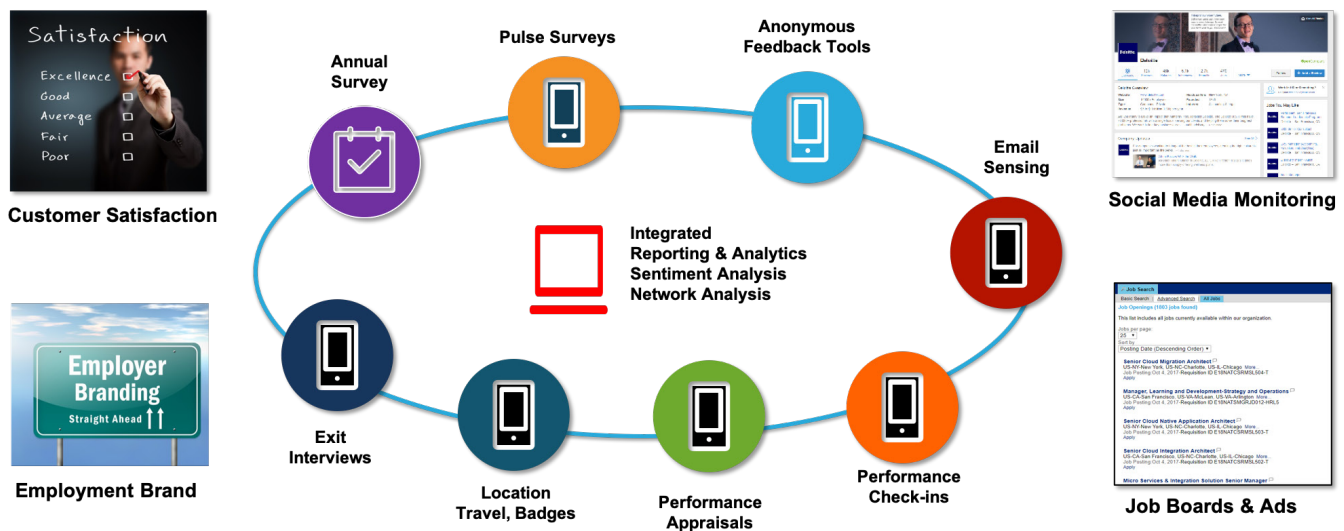


Figure 27
Building an Enterprise Feedback Architecture

6 Recruitment Market Changes: AI and Data Now Lead

In many ways, recruitment is the most important thing managers do. And many HR managers tell me that almost a third of their hires don't work out, despite extensive testing, assessment, and job fit analysis. The answer, of course, is an escalating war to leverage data, intelligent algorithms, and social sensing tools to make recruitment more effective.

Explosion in Recruiting Technology

In last year's study by Bersin by Deloitte, we found a clear differentiation among those companies who seek out, find, and leverage advanced technology. These companies are four times more likely to leverage advanced technology and they are achieving significant improvements in time to hire, quality of hire, and cost to hire.

Because the market is so big, there are vast amounts of venture capital in this segment. I estimate that more than 45 million people change jobs in the U.S. alone each year⁷, and this number is at least four to five times bigger around the world. And each time someone changes a job, there is a job search, a company search, a set of interviews and assessments, a process for job testing and job fit, a process for background checking, and an enormous amount of effort for face-to-face meetings, evaluations, job offer, and then onboarding. All these steps require data and automation, so there are hundreds of tools to buy.

From ATS to Candidate and Recruitment Experience

Over the last two decades, the recruiting automation market has focused on applicant tracking systems, tools

that captured the paper or online resume and managed the end-to-end process of recruiting. The ATS market continues to be enormously important because there is so much data, workflow, and volume of activity to manage. The companies that sell ATSs (such as ADP, Avature, Cornerstone, iCims, Greenhouse, JobVite, Lever, Oracle, SmartRecruiters, SuccessFactors, SAP, Workday, and Ultimate) still have viable business models because every time a new company is formed they need a system for recruiting. In times of economic growth, the ATS market expands. During recessions, it contracts. I won't write a lot about this part of the market, because it continues to grow and these tools become more focused on sourcing every day.

On the other hand, the problem most companies face is not tracking the recruitment process, it's finding people and managing a very complex set of activities. These include advertising, branding, college campus visits, hosting events, creating job sites and career portals, creating smart assessment processes, leveraging alumni and passive candidates, creating scalable processes for interviewing, defining criteria for hire decisions, onboarding, and capturing data to make sure the whole recruiting process is steadily improving.

Most companies find there is no one platform to do all things. This means you have to select tools from multiple categories, as well as integrating these tools together. This is why some of the bigger AI-driven platforms (Avature, Phenom People, AllyO, and others) have focused much of their effort on integration and data management, not just highly functional software.

Almost every new vendor now leverages AI to help find and filter candidates, assess fit, and determine what to pay. And more and more of the AI can now identify patterns of bias and discrimination (only hiring or interviewing white males, for example), and really help uncover issues nobody really thought about before.

7. <https://www.thebalancecareers.com/how-often-do-people-change-jobs-2060467>

I spoke with the head of recruitment at Microsoft a few months ago and he told me the biggest trend they see is the steady shift in the role of the recruiters themselves. All these tools are wonderful, but they don't really work unless you have a strong systems integration team and a set of data analysts who can use and manage the data you collect. And recruiters themselves are becoming much more focused on conversations and sales and less focused on process management and list management.

Investors are getting very aggressive in this market. One interesting move I'd like to point out is Jobvite's \$150 million investment by a private equity firm⁸. The team combined Jobvite with Talemtry (recruitment marketing), Rolepoint (referrals), Canvas (interview management) and the JobVite ATS. The goal appears to be developing an end-to-end recruitment platform that's best of breed in all areas. I personally think this is going to be harder than the company believes, but it shows an effort to reduce shopping fatigue by buyers, which is a big problem.

By the way, iCims, one of the most mature and long-lasting ATS/recruitment providers, continues to grow. iCims received a major investment from Vista Equity Partners, which has had much success in the HCM market⁹, acquired TextRecruit, a leader in mobile candidate management, and is now generating more than \$200M per year in annual recurring revenue. While many companies don't know the brand, iCims is now the largest ATS platform in the world and reaches more than 1.8 million users. This again points out that best-of-breed technologies run by innovation-oriented vendors can do very well, despite the growth of the HCM-offered solutions.

Despite these major investments, I want to point out a few other major disruptions taking place:

Let me briefly discuss some of the major changes.

- LinkedIn introduced Talent Hub, which is a real ATS and getting tremendous new investment from Microsoft. Microsoft continues to double down on its recruitment and other HCM technology, so we can expect this product to grow.

- AI-based assessments like Pymetrics and Plum are hot. Pymetrics, in particular, has proven that neuro-science based gaming can outdo other forms of assessment for many roles, and can reduce bias and pedigree-oriented recruiting. Pymetrics is now big enough that its clients can trade and share candidates. This is an enormous potential move, which puts the company in a very strategic position.
- There is tremendous growth in AI-based career and candidate management platforms like Avature, Phenom People, AllyO, Beamery, IBM Watson Career Assistant, and Gloat, which help candidates (external and internal) find the right role based on their resume and experience, not just what job they seem to like. In fact many of these technologies are likely to become the next talent platform, as they manage the matching, interactions, and mobility of internal and external candidates, one of the biggest new segments in HR.
- Avature and PhenomPeople, two vendors which started in different places (candidate management and career portals) have now built out end-to-end talent applications. In many ways, they are one of the most interesting new breed of integrated talent management platforms because they understand the relationship between candidates, jobs, and work. Their products have integrated internal mobility tools and both are moving beyond ATS and CRM to the end-to-end talent management market.
- The slow but steady feature maturation of Workday and Cornerstone, both of which are now starting to directly impact the ATS market with their integrated recruitment systems. Workday and CSOD customers are now continuing to buy these add-ons and the feature sets are maturing.
- The rapid success of products like Mya, IBM Watson, and integrated chatbots from other vendors which can not only screen candidates but also answer questions and take them down the funnel with great precision.

8. https://www.jobvite.com/news_item/k1-invests-over-200-million-in-jobvite-to-create-market-leading-talent-acquisition-platform/

9. <https://www.icims.com/about-us/news-room/press-releases/vista-equity-partners-closes-investment-in-icims>

The big disruptions in the market are the new tools and enormous growth of companies like Indeed, LinkedIn, ZipRecruiter, and other companies we used to call job boards. These are really what I think of as “Google for jobs” companies, because they aggregate, analyze, and support job seekers continuously looking for the right job year after year. Their business models are incredibly profitable (every job posting pays a fee and additional services are added for company pages and analytics tools), so the more volume they attract the more profitable they become.

This growth explains why the Japanese company Recruit, which is primarily a recruitment services firm, acquired both Indeed and Glassdoor. We can expect this kind of consolidation to continue. Stepstone has a similar strategy in Europe, for example. This will make it ever easier for HR departments to find candidates in these large networks.

The adjacent space I find fascinating is the websites and tools for company ratings and professional networking. Every company that builds a professional network of some kind eventually gets into job placement, and every company that starts building a company rating site does the same. It's just too lucrative to ignore. Today there are hundreds of specialized networks (99designs, Fiverr, UpWork, and hundreds of others) and these are essentially gig recruiting systems. The company ratings sites are also expanding rapidly (Glassdoor, Fairygodboss, Comparably, Kununu, Vault, and Ratedly) and new ones are crowdsourcing compensation as well (Payscale, Salary.com, and LinkedIn). All this data is part of the recruiting landscape, and it makes the job of the talent acquisition leader more complicated every day.

As I talk with HR executives and recruitment leaders, I realize the entire market is being disrupted simply by the volume and quality of startups doing new things. This makes it harder and harder for HCM and ATS vendors to keep up, because there are so many interstitial tools to buy or build.

A few other interesting companies I want to mention:

- Karat.io has built a highly automated, intelligent, scalable way to interview candidates. This company is leveraging experts and AI to create outsourced interviewing with quality at scale, reducing a huge amount of overhead and inefficiency in technical hiring.

- Orderboard.ai has built a very successful AI-based model to find and attract candidates for high-demand jobs. It uses some of the IP I developed at Deloitte to find data scientists, cyber security experts, and other very hard to find candidates and does so by looking at attractiveness, fit, salary, and team – a very unique approach that helps you fill these tremendously difficult roles.
- Ideal.com has built an AI-based system that scans and filters resumes, grading candidates for fit in real time. It uses the ATS, comparing job description to historic hiring decisions to understand the role, then ranks and grades candidates based on this intelligence.
- Restless Bandit uses AI to scour old candidates -- silver medalists as they're called-- to see if they fit for new positions, thereby deepening your candidate pool and increasing hire quality at a greatly reduced cost.
- New analytics modules from Visier now give recruiting teams end-to-end analytics across all these different tools. As the market has become so specialized and fragmented, it's more important than ever to buy an integrated analytics system that shows you what's working and what's not.

AI-Based Assessment

One cannot talk about talent acquisition without mentioning the explosive growth of AI and neuro-science based assessment. Let me mention some of the very successful companies here. Their offerings disrupt many of the traditional interviewing, sourcing, and screening tools – potentially even disrupting LinkedIn:

- Pymetrics is the leader, offering game-based neuro-science assessments that can match candidates to any job in your company. Its technology and IP has proven to be unbiased and can open the door to candidates from any background in the world, almost eliminating the need for pedigree-based assessment. Unilever, JPM Chase, and many of the world's largest employers now use Pymetrics.
- HackerRank has developed similar but more job-based assessment technology for engineers, again disrupting traditional sourcing and hiring.

- HireArt, Plum.io, and a re-invigorated SHL are reinventing job-based assessments in many roles. There is a renewed interest in new tools to measure leadership, so a variety of new vendors are trying to build new leadership assessments.

Diversity, Inclusion, and Bias Detection Tools Now Mainstream

Finally, let me mention the explosion of important features and tools to help with diverse hiring, diversity programs, and overall harassment and fairness at work.

Vault, a company founded by entrepreneur Neta Meidav, is founded on the finding that 75% of harassment goes unreported. The company's platform replaces the need for a third-party harassment hotline and gives employees a highly secure, confidential and private platform to report problems, identify patterns of misbehavior, and automatically captures evidence and a track record for later investigation. HRAcutity is a similar platform designed for employee relations management. Both Bravely and Spot serve this market.

Textio, LinkedIn, GenderDecoder, and BoostLinguistics offer tools to help recruiters and hiring managers avoid writing gender-biased or racially-biased job descriptions, which are essentially an unconscious way to discriminate. They also help you create mood in your job description.

SAP SuccessFactors and Greenhouse offer reporting tools and interview reports that identify gender and other forms of bias in interviewing, promotion, succession, and pay.

STRIVR Labs, Equal Reality, and Debias VR and others now offer real-world diversity training, putting you directly in an uncomfortable situation to teach you what bias you have and help managers and team leaders improve their own practices and behavior.

Jopwell and Blendoor offer specific solutions for job candidates and hiring teams to use AI and social tools to better attract, identify, and recruit minority candidates in all areas of business.

7 Gig Work, Internal Talent, Career Management Now Major Factors

Many have been writing about the growth in alternative work arrangements for several years. The U.S. Bureau of Labor statistics show that about 40% of the U.S. workforce are in non-full time work situations. They are contractors, part-time workers, gig workers, or contingent workers. Much of the data I now read puts this number closer to 50%.

And this trend is increasing. A detailed academic report in 2016¹⁰ reported, “A striking implication of these estimates is that all of the net employment growth in the U.S. economy from 2005 to 2015 appears to have occurred in alternative work arrangements.” This is even more true today.

ADP recently shared that since from 2000 to 2016 there was a 4% drop in the number of W-2s filed for annual employment tax reporting and a 23% increase in the number of 1099s filed by independent contractors.

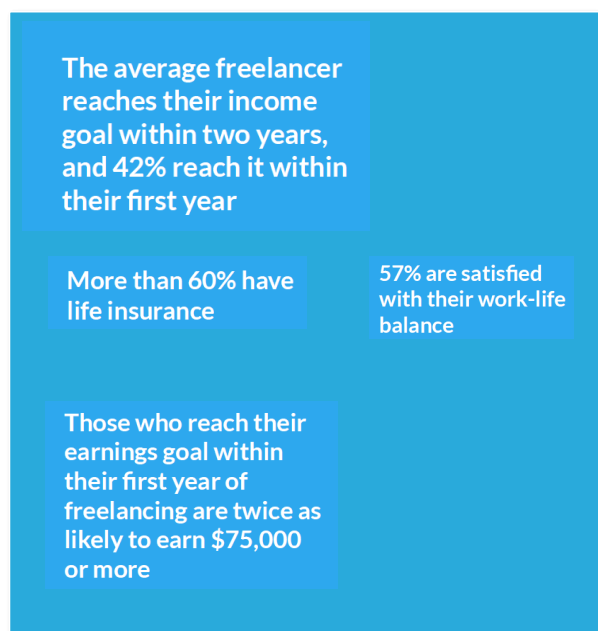
The trend is even stronger among younger workers. Deloitte’s

2019 Global Millennial Survey, which had approximately 13,500 respondents, found that 49% of respondents plan to leave their jobs within two years and 61% do gig work on the side today. And surprisingly, 84% of millennials and 81% of Gen-Z workers would take a gig job today if it paid more than they make now.

A recent study by the gig platform Freelancer found that gig work is quite enviable. The actual job satisfaction among gig workers is almost 8% higher than that of the average full time worker, and while full time workers worry about income stability, gig workers are less worried about income stability than full time employees!¹¹

10. https://krueger.princeton.edu/sites/default/files/akrueger/files/katz_krueger_cws_-_march_29_20165.pdf

11. <https://wisebrand.co/state-of-the-freelance-nation-survey/>



- 80% of gig workers said they are satisfied with their current jobs, and 62% said they are happy with their financial situation. — Morning Consult, 2018
- 67% of gig workers said that they do contract work to supplement their income, while 33% said it is their main income. — Morning Consult, 2018

<https://wisebrand.co/state-of-the-freelance-nation-survey/>

Figure 28
Freelance and Gig Workforces Are Growing

Explosion of Gig and Talent Networks

One of the reasons gig work is becoming so popular is that there are now many ways to find work. Uber and Lyft are obviously the biggest examples of businesses built around this model, but there are also hundreds of specialized work networks available to help people find gigs.

There's one called The Mom Project, exclusively available to women with children who want gig work, and a fast-growing company Shift.org that helps veterans find work. Shift uses data models to predict great fits between military experience and business roles, and also provides internships to help vets transition to full time civilian jobs. A company called shiftgig.com helps people find part-time unskilled jobs, and a new company, moonlighting.com (funded by Kelly Services), is building a gig network based on block chain technology¹².

These networks are slowly moving toward the enterprise market. Upwork, which went public last year, is now

developing an enterprise offering – designed to help companies find and manage specific in-demand skills.

Other aspects of this are the emerging market for internship networks. In the U.K., Whitehat¹³, a company founded by Euan Blair (Tony Blair's son), has developed a complete end-to-end sourcing, training, and management platform for internships¹⁴. The company uses AI to match candidates to gigs, it provides mentorship and training, and it helps employers file for government reimbursement. Interns can evaluate employers, forcing employers to take the program seriously. The program has been highly successful among many financial services, tech, and retailers in the U.K., including Google, Sky Publicis, WPP, Clifford Chance. The company is now expanding into the U.S.

Another similar startup called Hatch helps students find work while they are in school, and then matches them to full-time positions after they graduate.

BIGGEST FREELANCE WEBSITES	SIZE	TOTAL TRANSACTION VOLUME	HEADQUARTERS	GLOBAL WEB RANKING
Freelancer.com	35 million users in 247 countries ¹⁵	\$4.1 billion ¹⁶	Australia	#1337
Upwork.com (formerly Elance-oDesk)	14 million freelancers in 180 countries	\$1.8 billion ¹⁷	United States	#488
Fiverr	Millions of creatives in 190 countries	\$450-500 million	Israel	#405
99Designs.com	Tens of thousands of designers	\$250-350 million	Australia	#4838

Figure 29
Largest Freelance Websites

12. <https://cointelegraph.com/news/major-staffing-company-kelly-services-turns-to-blockchain-with-new-partnership>

13. <https://whitehat.org.uk/>

14. <https://www.ft.com/content/6ee393a8-b5c7-11e8-b3ef-799c8613f4a1>

15. <https://www.freelancer.com/about>

16. <https://www.freelancer.com/about/investor-pdf.php?id=87720799&name=20190731-Freelancer-1H19-Results%20FINAL>

17. <https://investors.upwork.com/news-releases/news-release-details/upwork-reports-fourth-quarter-and-full-year-2018-financial>

Need for Gig Management Platforms

This year I completed a major study with HRPS on the alternative workforce¹⁸ and found, unfortunately, only 16% of companies have a strategy for managing gig work. Most non-traditional workers are hired by line managers and administered through the purchasing department, and only 12% qualified as high performers in capability assessments.

In addition to a general lack of interest in managing gig workers strategically – although this is changing quickly -- the biggest issue is data. HR departments simply do not know how many contractors or part-timers are employed by their companies, they don't know what these workers are doing, and they have no process to establish standards or manage this workforce strategically.

In fact, among lower performing companies (88% of the sample), only 6% have good data about their gig workers and more than two-thirds have almost no data at all. Clearly this is an opportunity for HR technology, so many vendors are now starting to build tools to make this easier.

The market for vendor management systems, contingent work systems, gig work platforms, and gig work platforms is exploding. ADP offers WorkMarket, SAP launched FieldGlass last year, Gloat offers InnerMobility, Fuel50 has FuelGig. Catalant, Hitch, and new products from Workday and Oracle are also starting to address this market.

There are quite a few categories of contingent work platforms today. Vendor management systems (VMS) help companies manage vendor contracts. More than 75% of companies manage contractors through the purchasing department, not the HR department. Contingent work systems such as WorkMarket let companies set up gig and contingent pools. Time and labor systems, such as those from Kronos, SAP, Oracle, and Workday, let companies set up part-time hourly workers. And many new gig management systems are coming. Legion¹⁹, for example, enables employers to create hourly work schedules across retailers, and it will likely become a contract or gig platform of its own. Companies like WorkGig focus on part-time temporary hourly projects.

In the HRPS research, we found that the higher-performing companies were almost three-times more likely to have some platform that manages contingent workers. I believe this category is now becoming essential and will be a major growth market in the coming years.

The Next Big Talent Strategy: Internal Talent Marketplace:

Just as the external market has shifted toward gig and contingent work, so has work inside the company. The 2019 Deloitte Human Capital Trends research found that 35% of companies now operate as a network of teams, which means talent, skills, and goals are shared across companies. This means more and more leaders now realize that their talent management strategy is no longer a prehire to retire process. Rather, it's a process of helping each individual find their own optimum career through projects, developmental assignments, new roles, and mentorship.

This new talent model is now starting to take hold. Not only is it better for people's careers, it gives the business more agility and lets the company find internal skills without the high cost of recruiting people with specialized skills and knowledge.

I recently wrote a long article on the way Unilever and Schneider Electric²⁰ now manage their workforce as an internal talent market. The benefits have been tremendous. Both companies implemented a new platform (Innermobility by Gloat) and have seen rapid adoption of this agile, gig-based work model. Some companies have done this for years. For instance, Pfizer created an internal set of data and scientific experts years ago for internal hires. But in most cases, people are "owned" by their functional area of manager. In an internal talent marketplace, everyone is available to do any work, so the company can grow much more organically.

One of the most striking pieces of research from the Deloitte Human Capital Trends was learning that almost 65% of respondents said it is easier to find a job outside their companies than inside their current companies. An internal talent marketplace fixes this problem.

18. <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/getting-the-most-from-the-alternative-workforce.aspx>

19. <https://techcrunch.com/2017/09/27/legion-raises-10-5m-to-roll-out-an-automated-employee-scheduling-tool/>

20. <https://joshbersin.com/2019/07/the-company-as-a-talent-network-unilever-and-schneider-electric-show-the-way/>

Combining Recruiting Software with Talent Management Software

Creating an internal marketplace for talent requires many changes. You need to enable people to work on multiple projects; you need to change the role of managers to coach; you need to reward people for horizontal contributions and growth; and you need to create a strong culture of internal collaboration and cross-divisional communication.

But the biggest challenge of all is simply opening up the largely a technology problem. So what vendors are now doing internal jobs and opportunities to employees, and this is connecting the applicant tracking system, where all the internal jobs are managed, to the employee's internal talent system, so people can look at their skills and goals, identify internal opportunities, and apply for new roles.

The vendors doing this today are coming from multiple places, but largely from a focus on talent acquisition:

Gloat InnerMobility	Company was initially called Workey and built an AI-based matching algorithm for job candidates. The technology has now been totally re-factored and designed for internal skills matching, gig work management, and mentorship.
Fuel50 FuelGig	Company started as a career management platform for career paths and career development. It has now added gig work management, mentorship, developmental assignments, and end-to-end internal mobility.
Phenom People	Company started building career portals for recruiters, and developed an AI-based model to identify and display career paths. It has now developed an end-to-end platform for internal talent mobility and is focusing on internal talent management.
Workday	Workday acquired RallyTeam who was working in this area and is now actively building Workday Talent Marketplace, which is coupled to Workday Skills Cloud, and expects to introduce it to market in spring of 2020.
Google	Google has been experimenting with an AI-based internal talent marketplace called Project Chameleon ²¹ . Results are not out yet but the company sees this as one of its most important talent management strategies.

Figure 30
Recruiting and Talent Software Coming Together

21. <https://rework.withgoogle.com/blog/googles-algorithm-powered-internal-job-marketplace/pages/getting-the-most-from-the-alternative-workforce.aspx>

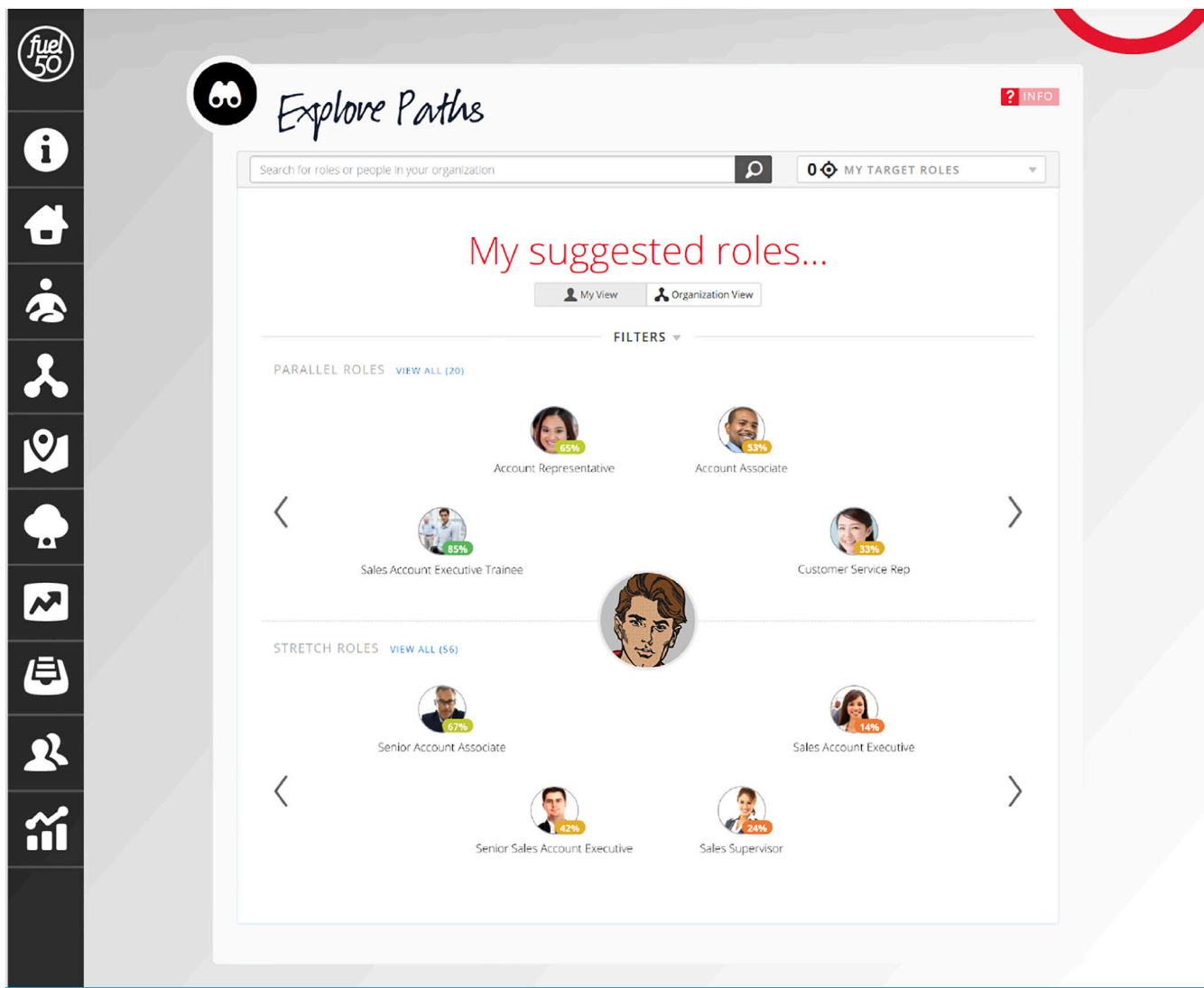


Figure 31
Fuel50 Screenshot

8 Performance Management Tools Start to Converge

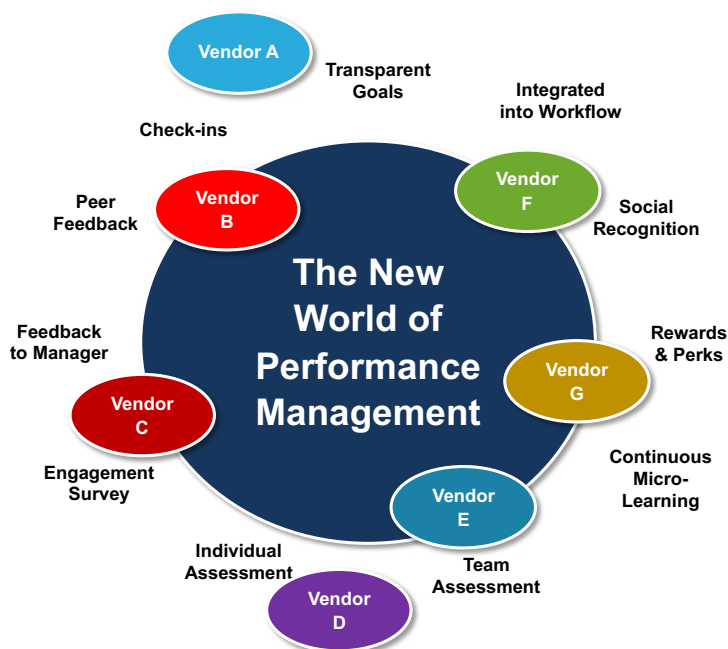
One of the thorniest and most controversial parts of HR is performance management.

The questions are endless. Should we give people ratings? Should we use OKRs to set goals? Should we formalize feedback? How will we evaluate performance and potential? How will we promote development planning? How will we allocate salary and incentive rewards? What is the role of social recognition?

Many of the interesting ideas (continuous performance management, OKRs, open two-way feedback, check-ins, growth mindset, development coaching) are all starting to converge. And this means that performance management software is becoming very important again.

To think about all the convergence taking place, consider the various features in the Figure 32. A performance management tool really should integrate all of them.

And there's another important convergence taking place -- the blending of features between HR-driven performance management software and performance management software used by managers to drive real performance. The feature sets are different.



Major Cultural Change

Annual Process	→	Continuous
Manager-Centric	→	Team-Centric
Hierarchical	→	Multi-Directional
Competitive	→	Developmental
Subjective	→	Data-Driven
Secret	→	Transparent
Single Rating	→	Richer Rating

Figure 32
The New World of Performance Management

As shown in Figure 33, products are coming from four different directions, all trying to address the same market.

The mature and sophisticated tools are positioned for continuous performance, so they focus on HR-designed features like check-ins, feedback, end-of-period reviews, and development plans. The vendors that sell manager-led team management tools have great agile OKR functionality and team collaboration, but don't necessarily have the HR features larger companies want. The engagement vendors offer feedback and other types of listening tools, and some are adding performance. And the recognition vendors, who offer feedback as their core, are adding performance features as well. Achievers offers feedback; Laudio offers AI-driven coaching with recognition; and Workhuman, formerly known as Globoforce, sells conversations products into PM;

Where does that leave the market? Companies have a lot of options. Let me highlight a few:

- SuccessFactors' continuous performance management tool has been a big success, because it implements many of the new features companies want and also lets companies simultaneously use traditional practices as well.

- BetterWorks now leads the market for non-ERP enterprise tools, followed closely by Reflektiv, Kazoo (HighGround), Lattice, and others. Glint's new offering will make a large dent in the market because it is directly integrated with the company's real-time feedback and management action platform, and is now part of LinkedIn and Microsoft.
- For companies focused on OKR goal measurement, definitely the increasingly popular management model in fast-growing companies, the leaders are BetterWorks, 15Five, 7Geese, Workboard, and Just3Things.
- For companies wanting a development-focused performance management system, CultureAmp and WorkHuman are the best fit because they are light on goal management but heavy on development, feedback, and coaching.
- In the area of rewards and recognition, tools now include feedback, so vendors like WorkHuman, Achievers, OC Tanner, and Reward Gateway are now becoming part of the performance suite.

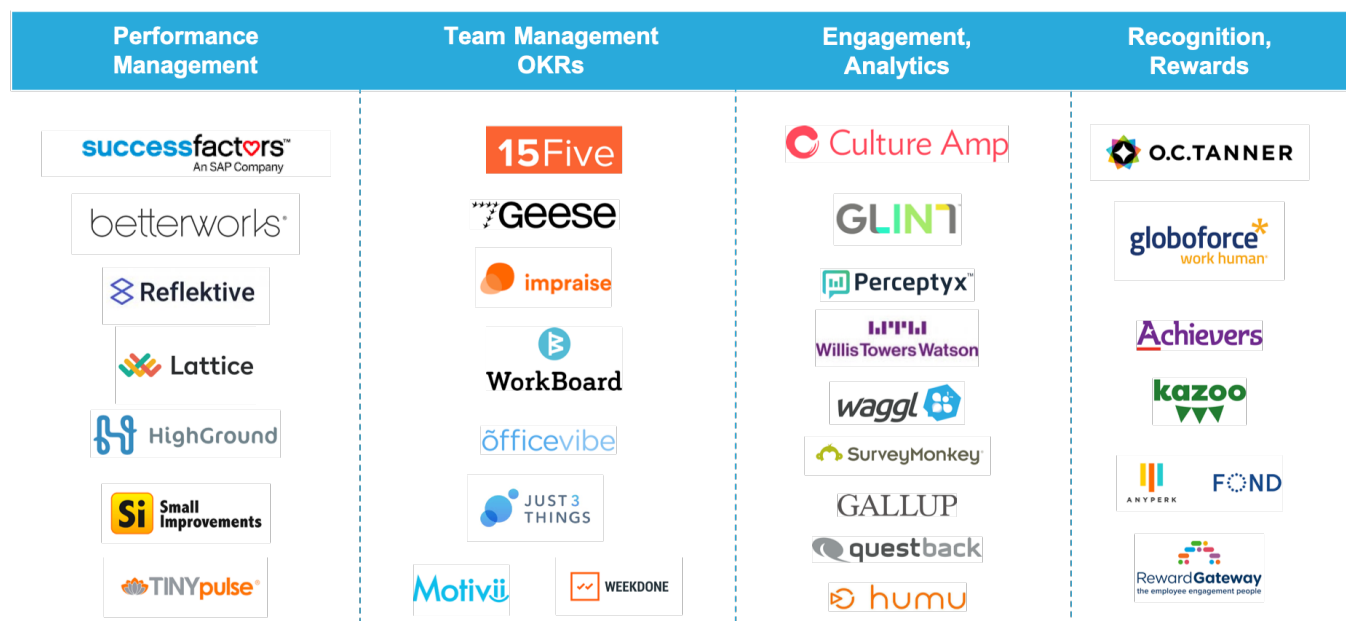


Figure 33
The Market Is Starting to Converge

Over the last year Zugata, which specializes in AI-based 360 skills assessment, was acquired by CultureAmp, a leader in employee voice and engagement, and Kazoo was formed through the merger of HighGround and YouEarnedIt. Glint was acquired by LinkedIn, which is owned by Microsoft.

In the HCM market, SuccessFactors has a continuous performance management offering which is now being used by more than 500 companies. Oracle has introduced a more agile performance system and Workday has finally released its more agile performance tools. Workday has taken the process it uses internally (focused on contribution, capabilities, career, compensation, and connections) and is now showing companies how to implement a similar model. Workday is also reselling benchmark data from Great Places to Work to let employees assess their companies and managers against benchmarks, which creates a management feedback process. While the HCM vendors are moving fast into continuous performance management, the third-party market is very advanced now so I think we will see a lot of multi-vendor solutions for the next few years.

Smaller organizations can easily implement one of these systems and find them very complimentary with core HR platforms (most store end-of-year reviews in the core HCM systems). But large organizations often have a quandary: How do we implement a continuous performance management system which is very goal-oriented for sales professionals, highly developmental for leaders and managers, very collaborative for consultants and other service workers, and perhaps very simple and easy to use for line workers? No one system is always best for all categories of workers, so most bigger organizations are evaluating many options.

We've written many case studies of companies like Patagonia, New York Life, Adobe, and even Deloitte that delve into the implementation of these systems. Most of these companies have purchased one or more vendor products and the often build integration tools around them. My recommendation

to any company evaluating these vendors is to do a strategy workshop first. Before you rush out and look at how interesting these platforms are, sit down with your business leadership and walk through your philosophy of performance management, talk about how frequently you want people to check-in with managers, how transparent and aligned you want goals, and how important the development, coaching, and evaluation process will be. This will be a multi-day experience, but you'll come out of it with some philosophical decisions which you can then use to map against vendors.

I'll say two important things here.

First, nearly every company that implements a more continuous process tells me the results are very positive. Just creating a more regular, transparent process for performance management and evaluation is a good thing, and it always takes time to train managers and employees to feel comfortable giving and receiving feedback.

Second, these tools and related practices give you tremendously better data, insights, and transparency into your entire talent process. People should be receiving feedback from multiple people; regular check-ins give employees and managers better reflection on performance evaluations and ratings; features for social recognition bring much new data to the process; and tools that automatically collect development feedback are immensely valuable. This data will give you far less-biased results at the end of the year, and almost all companies tell me these tools increase management communication and also give HR leaders a much better sense of who the strong managers are.

Figure 34 brings the elements of continuance performance management all together. The reason this is disruptive to the HR technology market is that this new process is not hierarchical or linear like most systems were designed to automate. It is a continuous, looping process that might take place in teams, departments, or across divisions. Data must be aggregated by business hierarchy but also by manager,

team, and often function across projects. These new systems also capture organizational network data and can identify who is giving feedback to whom. They also often have pulse surveys built-in, so one can see which manager is driving higher levels of engagement and which may be more biased or discriminatory. The systems also help visualize data about the nature of goals and feedback and the types of development plans people are implementing.

One of our clients did an analysis of feedback and found that employees with more frequent check-ins were statistically higher performers at very high levels of confidence. New systems can identify when an employee is checked out and even point out when a flight risk is starting to develop. All this is far more advanced than the old end-of-year forms automation or cascading goals developed by talent management vendors in the early 2000s, so I think this market is really core to building a 21st century talent platform.

But it goes well beyond feedback. Ultimately these systems have to focus on business performance, not just individual goals. The Taj Hotels, which is one of the most highly esteemed hospitality companies in the world, recently changed its performance process to focus every employee on team success. There are no more individual reviews in hotels at Taj; everyone is evaluated based on the success of their local property. The CHRO, Dr. P.V. Ramana Murphy, told me the company has seen tremendous increases in engagement and alignment, to say nothing of the benefits to customers. Think

about a Taj hotel employee who sees a broken light or spill in the hotel lobby. Rather than delegate the problem to another person, the employee jumps in and fixes the problem. THIS is what we want performance management to do!

Finally, these tools must come together with career management, recognition, and other feedback tools. It has always bothered me that performance management software was developed as if it's a standalone application. In the real world the only reason to do performance management is to help people improve, so we need these systems to take a more holistic view – which in turn means there will likely be acquisitions and lots of consolidation again, just like we saw in the last wave.

Already we've seen Glint, TinyPulse, and Ultimate Software get into the engagement and feedback market. YouveEarnedIt merged with HighGround, bringing together recognition, rewards, and feedback. Companies like BetterWorks and Reflektiv are working on more advanced analytics and development planning systems. And Fuel50, the leading career management platform is now getting into goal management, coaching, and gig work management to help companies build better development experiences.

In the next two years I believe the winners will acquire some of the tangential vendors on this chart, and we will see this new 21st century talent platform market take shape.



Figure 34
The Continuous Performance Management Process



Figure 35
Convergence of Talent Applications Ahead

9 Accelerated Reinvention of the Learning Tech Market

In this new age of AI and automation, every company is now focused on skills. And today the problem is not just training, but on building an entire corporate culture that facilitates learning every day, all the time.

The learning technology market, which is \$20 billion or more on its own, is going through the greatest innovation I've seen since the early 2000s. The big shift, shown in Figure 36, is creating an employee experience that enables learning in the flow of work²², while also advancing professional academies within the company.

The New World of Academies

Corporate academies are the new paradigm for skills development. An academy, like the Josh Bersin Academy, is essentially a place where people go to learn, share what they've learned, ask questions, and advance their career. Within a company, they are places the company can use to advance proprietary practices, inventions, and initiatives.

An academy is not only staffed by instructors, it's also staffed by experts – allowing companies to unleash the power of subject matter experts to teach, share content, and convene discussions.

In addition to all these new paradigms, companies desperately want a skills model so they can assess where skills are strong and where they are weak. My advice on this topic is not to boil the ocean, but to focus on a small number of skills that each professional group needs. But that means skills assessment and skills technology is badly needed.

There are essentially three ways to assess skills:

1. *Assessment*. You can buy assessment tools or build tests and verify skills through testing.
2. *Peers*. You can ask people to tell you the skills of others and through crowd sourcing you can identify skilled people.
3. *Inference and AI*. You can use new tools to infer skills through people's experience, work product, and other data.

In most cases, the first two methods are most useful and practical. But more and more of the tools in the market (Workday Skills Cloud, Phenom, Gloat) are trying to do assess skills using the third method. You can also capture data from LinkedIn and other networks to do this.

22. <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/getting-the-most-from-the-alternative-workforce.aspx>

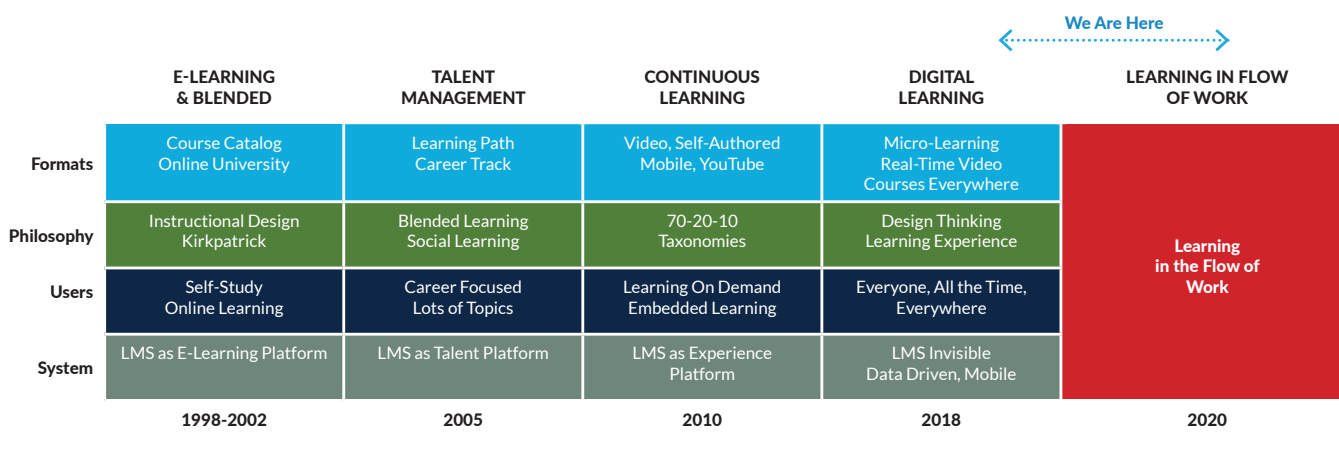


Figure 36
How Corporate Training Has Evolved

The LMS Market Falls Behind

While HR technology needs have grown, the LMS market has struggled to keep up. As a result, an enormous industry of new systems encompassing learning experience tools, collaborative program management tools, and micro-learning tools has emerged -- all designed to complement and eventually perhaps replace the LMS.

While companies have purchased more than \$8 billion of LMS technology over the last decade, the LMS is no longer the center of corporate learning. As I like to explain, the LMS went the way of the mainframe. It has not disappeared, but it's now in the basement doing the things it does well. LMSs process compliance training, track and store learning completion data, run business rules and management approvals, and handle certification, customer training paths, and revenue generating training. In other words, the LMS is like a learning and training ERP system.

Legacy LMS vendors are each reacting to this shift in different ways.

Cornerstone has launched its own LXP and is now aggressively becoming a content integrator. Similar to companies like OpenSesame and Go1, both fast-growing content integrators, Cornerstone is signing up content providers and selling an integrated set of content pre-loaded into its LMS. This is turning into a robust revenue stream for Cornerstone, but still begs the question of whether the actual learning experience can keep up with focused LXP providers.

Saba, through its acquisition of Halogen and Lumesse, is now an end-to-end talent management company. The company is now privately held and very profitable and is aggressively promoting and expanding its talent platform, and working with its large enterprise customers to move them to Saba Cloud.

SumTotal and Skillsoft are continuing to invest in Percipio, and Percipio is now a well-established LXP technology. SumTotal's deep experience in compliance and skills functionality continues to make it one of the more robust LMS platforms.

SAP's enterprise LMS is undergoing a significant redesign to make it more useful and integrated into the rest of the SuccessFactors platform. New features for e-commerce and revenue-generating learning are revitalizing it in the market.

Oracle and Workday are banking on the fact that their learning platforms will be easy to buy, and since each is already integrated into the corresponding core HCM platform, easy for customers to turn on and deliver an integrated experience. Both LMS solutions are missing many features which the more focused vendors provide, but their customers often acquire the platform at a discount and then wait for features to catch up later.

And then of course there are many new LMS vendors, each focused on creating a new and more compelling learning experience.

The New Learning Tech Marketplace

The new marketplace is depicted in Figure 37. Let me briefly explain each box:

1. *Learning Experience Platforms*: This is a market segment encompasses tools like Edcast, Degreed, Valamis, 360Learning, and Fuse at its core and new entrants from Cornerstone, SkillSoft, Instructure, and others. These are systems that aggregate content from any source, including internally developed content. They use machine learning to recommend content to each individual and let you build learning paths. They also try to assess the skills of each individual through their activity.

These tools are designed around YouTube or Netflix paradigms to be easy and fun to use and highly engaging. Where they fall short today is in the context and flow. They are not good for progressive learning experiences, they are often used as portals in front of the LMS, and they are not micro-learning oriented yet. That said, they're explosive and highly valuable, and I think almost every company will buy one. They really represent an evolutionary step past the LMS and the traditional course catalogs.

And they are proven. HP, Bank of America, Mastercard, Visa, Deloitte, and hundreds of other companies are

using these systems now, making these vendors more like LMS companies every day. The widespread adoption has encouraged Workday and Oracle to build front-ends that behave like this, and SuccessFactors JAM can also perform this function. So this little category, which started as an experiment, has shifted the entire market and forced every learning platform company to adapt.

Today, several years into the LXP market, new entrants are coming from everywhere, and vendors like 360Learning (collaborative, expert-authoring system coupled with LXP), Valamis (AI-based algorithmic indexing and video indexing), and many others have entered the space.

2. *Program Platforms*: While we'd all like to have a YouTube system at work, there are times when we need a real MOOC-like platform for learning. Unlike a single video course, a MOOC steps you through an entire curriculum and actually delivers you to a point where you have truly learned a new body of knowledge. Sales training, leadership development, onboarding, supervisory training, and engineering are such domains. O'Reilly, a leader in technical publication and training, found that 52% of all activity in its platform is macro-learning oriented and 48% is micro-learning oriented. So this is a big space. Many LMS systems perform this functionality, and companies like the ones cited on the chart above do also.

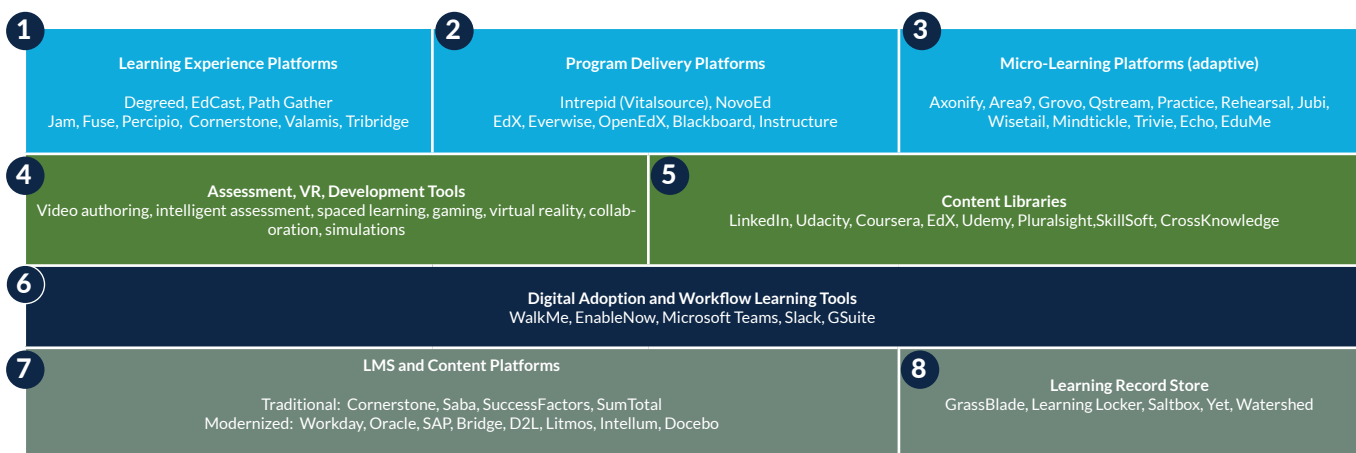


Figure 37
New Learning Tech Market Segments Arrive

Micro-Learning	Macro-Learning
<i>I need help now.</i>	<i>I want to learn something new.</i>
<ul style="list-style-type: none"> • 2 minutes or less • Topic or problem based Search by asking a question <ul style="list-style-type: none"> • Video or text • Indexed and searchable • Content rated for quality and utility 	<ul style="list-style-type: none"> • Several hours or days • Definitions, concepts, principles, and practice • Exercises graded by others • People to talk with, learn from • Coaching and support needed
Is the content useful and accurate?	Is the author authoritative and educational?
Videos, articles, code samples, tools	Courses, classes, MOOCs, programs

Figure 38
Micro-Learning versus Macro-Learning

Companies like NovoEd and Nomadic are fast-growing here, as well as new platforms like Hone, which offers a revolutionary new live learning experience coupled with expert-led content. I also believe Bridge, by Instructure, is a good example of a next-generation LMS and learning program management system, as is Desire2Learn, another next-gen LMS, and CorpAcademy, a company that has built a program management system with leadership and expert content.

3. Micro-Learning Platforms: This category includes companies like Axonify, Grovo (now owned by Cornerstone), and to some degree Fused, and Filtered. What these companies are doing is truly building what we often call adaptive learning paths. The systems truly deliver the correct or appropriate learning based on an employee's learning history, job, or other activities at work. I believe this will be explosive and fundamental going forward.

Axonify, for example, can deliver safety training to workers in prescribed and intelligent paths in five-minute chunks each day and then ask the learners how confident they feel about the material. Through its machine learning algorithm, the system can give an employee just enough learning to finish the goal. This is truly learning in the flow of work, and it requires quite a smart platform.

Most vendors are inching in this direction. Skillsoft and Edcast have browser and Slack plugins to deliver appropriate learning. WalkMe and EnableNow can deliver context sensitive learning for software and computer applications. Instructure is also building functionality like this. So look for this kind of functionality in all your vendor searches.

One of the dark horses in this space is Microsoft Teams. The company already offers a learning discovery feature in Teams that identifies shared content that has a learning focus. I believe Teams will rapidly become one of the most valuable micro-learning and launch platforms for learning in the coming years, since almost all major corporations have Office 365 and Teams already. We built a Teams app for the Josh Bersin Academy that lets members query and find Academy resources directly from Teams. The app also lets members use special Academy conversation starters™ to spark collaboration with other Teams users.

4. Assessment, VR, and Virtual Learning: I'm still learning about this exciting space. I'm most familiar with STRIVR, which has developed a complete development and delivery solution for mind-blowing 3D-, video- and audio- based virtual learning. Wal-Mart, United Rentals, and JetBlue all now use the system for all sorts of high-risk, high-cost, high-value training applications. Companies are even using VR for diversity training, in which employees are placed in simulations so they can feel what it's actually like to be a diverse candidate.

5. *Content Libraries*: This market is vast and always changing. LinkedIn Learning has become a major player and Skillsoft, Udemy, CrossKnowledge, O'Reilly, Pluralsight, Harvard, Udemy, and hundreds of smaller vertical players continue to grow. In many ways, the LXP market is enabling and freeing up companies to buy more content and providing much better information about what people are using. All my work in L&D has shown that a very small percent of content in a library is actually used. But large companies do want large libraries to meet everyone's needs. The problem with many libraries is their ease of access, and of course the design itself.

I'm a big fan of buying content from vertical specialists, which bring amazing depth of IP to the market. So if you buy an LXP or other open platform, you then have the opportunity to pick the best and make it easy to find

6. *Digital Adoption and Workflow Learning Tools*: Leaders in this category are WalkMe, EnableNow, and plugins to Microsoft Teams, Slack, Workplace by Facebook. This is an amazing technology base and there are probably 100 or more tools that let you add interactive help, inline video, and other context-sensitive content to a particular job role. Every company needs something needs something from this category.

7. *LMS and Content Platforms*: This market has not gone away. The vendors shown in the chart are all well-run, rapidly advancing companies, and their products are growing in capability. The core features of an LMS -- course administration, tracking, compliance processing, business rules, and revenue-generating learning -- are all important. I don't see any huge changes in the market with the exception of Workday, which I'll discuss later. Newer vendors like Instructure, Docebo, D2L, and others are putting a lot of pressure on incumbents like Saba and SumTotal, but all are advancing their platforms rapidly. You have to do an RFP to evaluate these products well, because they are all changing so quickly.

8. *Learning Record Store*: This is a category of tool that lets you store learning and activity data without an LMS. More and more companies are buying these because they believe their LMS days are limited. They work well and give you real-time analytics we never had before.

The big disruptions in the market are many. Workday is working hard on its LMS, and over the coming years is likely to build out a fully functional system. Today the system is an amazing video learning and content management platform, so I think most Workday customers will buy it and use it for micro-learning, onboarding, and many other forms of communication. Oracle HCM's learning platform has also rapidly matured and is starting to compete with standalone LMS products.

Products like GuideSpark, which are designed entirely for the complex world of employee communications, are somewhat similar. GuideSpark and Workday both use campaigns to communicate with employees, similar to what CRM systems do, so you can push content to people in a very prescriptive or activity-driven way.

SAP continues to build out a wide variety of learning solutions, including EnableNow, Jam, Learning Hub, positioned as the place to go for SAP training, as well as its LMS. The company has a vast engineering team working on LXP interfaces, new mobile interfaces, and action and embedded learning, so I don't count them out. But you have to figure out which pieces you need, because the company has such a broad range of offerings.

I also believe systems that enable real-time practice -- such as Practice by Instructure, Rehearsal, and similar functionality from Desire2Learn -- are vital and explosive in value.

AI-based systems are also here. Filtered, which creates an AI-based chat bot for learning, has tremendous potential. Volley and Jane.ai both read documentation and develop learning without the need for human instructional design. And I know a startup that is building context-specific learning directly from email traffic and communication patterns. So we can expect some very smart systems to appear next year.

Evolution of the LXP

Right now the most exciting category in learning technology is the LXP. Degreed, EdCast, Valamis, Instilled (LTG), 360Learning, Cornerstone, Skillsoft (Percipio), and even LinkedIn are all growing in this market. Let me spend a minute explaining where this market is going.

Phase 1: Learning Discovery

The first era of LXP products were what I call discovery platforms. They brought YouTube-like or Netflix-like experiences to learning. These early platforms (Pathgather, Degreed, EdCast, Tribridge) were cloud-based learning portals, designed to provide search and discovery of learning. They were revolutionary because they were so much more engaging than the course catalogs available in LMS platforms.

Phase 2: Learning Paths, Skills, Roles

The second era of LXP functionality was the creation of learning paths, learning recommendations, and the concepts of “people” and “skills” as part of the LXP platform. At this stage, companies asked the LXP vendors to make the platforms more customized and configurable by role and to build repeatable learning journeys which may or may not be skills based. Vendors like Degreed, EdCast, Valamis, Percipio, and Cornerstone are here.

I would also point out that a very important new category of software which I’d call career management tools has emerged. The three biggest players in this market today are Fuel 50, Gloat, and Bridge by Instructure. These systems let employees find the next role and identify the specific developmental experiences and training need to acquire the skills for this role. This type of functionality is essential, and today it’s not included in any of the LXP platforms.

Phase 3: Collaboration, Program Management, Authoring

The third era is the use of the LXP as a real learning experience rather than a place to launch learning. Here companies such as 360Learning, NovoEd, Trailhead by Salesforce, and Nomadic are building integrated places to learn by adding features like integrated collaboration within and across programs, badging, advanced analytics, advanced assessments, and community features. This is where the LXP turns into a program management platform as well as a search and discovery platform.

This is also where vendors start to add advanced authoring and advanced video. The two premier solutions doing this are Instilled, an advanced product from LTG which includes the LXP, video authoring, collaboration, video distribution, and learning record store; 360Learning, a system designed for SME authoring as well as ongoing collaboration; and new products like Trailhead and LinkedIn learning.

Phase 4: LMS Functional Merger

At some point the LXP vendors will be asked to build full-fledged LMS functionality, encompassing certification paths, manager approvals, resource management, content versioning, scheduling, and more. But today, most LXP vendors partner with LMS providers or they are part of LMS companies (Cornerstone, Percipio, Instilled, Valamis).

Bringing It All Together

All this innovation is exciting, but what it really means is that you, as an L&D or HR professional, have to bring it all together. If you’re a small company this means buying an LMX and an LXP or a solution from a single vendor that does both. If you’re a bigger company it means really rethinking your corporate learning architecture.

In the case of the Josh Bersin Academy, we actually built a platform that does most of what you need. It includes micro-learning, macro-learning, collaborative learning, an LXP, and social networking all in one.

But for your company this means selecting some of the best of breed tools I mention here and bringing them into an end-to-end experience. Remember that regardless of the technology you buy, all learning takes place in four modes, as depicted in Figure 39.

Shell, one of the most innovative learning organizations I’ve ever visited, has stitched together all these elements into an entire academy focus on geologic science, engineering, and production.

I recommend you watch Shell’s L&D leader Henk Jaak Klosterman’s video²³. Its academy takes people from all domains and teaches them what they need to know about Shell’s technology, core science, and solutions in energy. It’s an end-to-end set of experiences, including some of the most

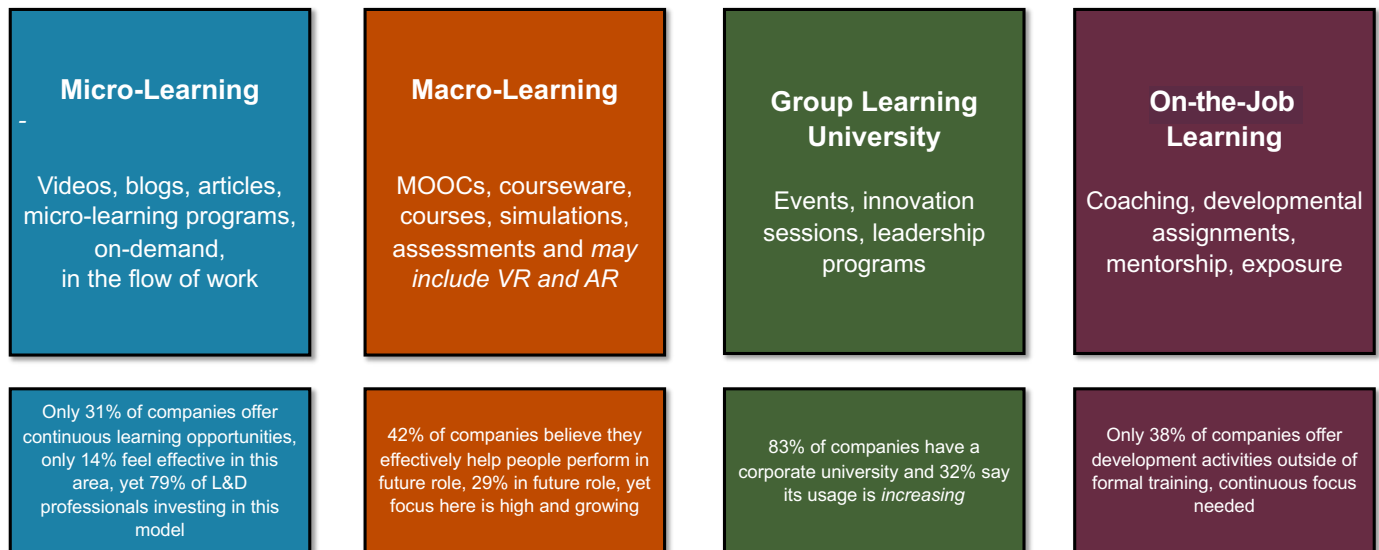


Figure 39
Multiple Modes of Learning Needed

advanced VR in the world. I think all large companies need this type of focus to scale. Such an environment helps you attract people, retain people, and of course move them to ever-more valued roles in the company.

Let me summarize with the biggest disruption of all – the changes needed to your L&D function. With all this learning-in-the-flow technology now available, you have to flip your L&D team into an agile, design-thinking operation. We can't just buy content and publish it to get value. We need to architect systems that enable all these new technologies, and apply them directly to job role and business problems.

I find the most advanced L&D teams now partner directly with their business counterparts and build environments. The L&D team at Tesla, for example, worked with its sales leadership to help re-engineer its entire sales organization – changing roles from product specialists to integrated sales teams, with a much stronger focus on the sales process and not just the product. This transformational effort was a real consulting project that teamed L&D with sales leadership. That's the future of L&D.

10 Wellbeing and Rewards Market Explodes

One of the most exciting and interesting developments is the explosive growth in the corporate wellbeing market. Wellbeing is an explosive market which grew out of compensation and benefits. My research shows that more than 38% of all wage dollars are now spent on insurance, health, and other benefits. A growing percentage of this is going to what we now call wellbeing.

The Global Wellness Institute²⁴ research shows this is a \$48 billion market that is growing by more than 6% per year. In a recent survey completed by Optum, more than 45% of companies are increasing investment in this segment. What does corporate wellbeing include? The list continues to grow, and as we've discussed earlier this year, companies are

shifting from wellbeing as a health benefit to wellbeing as a performance improvement strategy.

Below are some of the many areas included in this enormous market.

It's amazing to me how many of these programs have been expanding in recent years, driven by the overwhelmed employee. Almost two-thirds of employees cite overwork and stress as significant challenges to work productivity. As a result, employers are being asked to deliver a full range of service to help employees stay fit, rested, focused, and healthy.

And digital health services are growing rapidly.

23. <https://www.youtube.com/watch?v=yozoOzFM32M&feature=youtu.be>

24. <https://globalwellnessinstitute.org/press-room/statistics-and-facts/>

PHYSICAL WELLBEING	MENTAL WELLBEING	FINANCIAL WELLBEING	FAMILY WELLBEING	SOCIAL WELLBEING
Fitness subsidy and in-house programs, healthy foods and diet coaching, health coaching, health risk assessment, preventive care, workplace exercise and fitness	Counseling, assessment, mindfulness, yoga, sleep training, pet support and pets in the workplace, employee assistance programs, stress management, concierge services, sabbaticals	Consulting, wealth planning, investment advice, legal counseling, tuition reimbursement, discount programs, debt planning, low interest loans, training, real-time pay	Dependent care, maternity management, paternal and maternal leave, egg harvesting, adoption support, counseling	Employee resource groups, sports teams, competitions, social groups, volunteer days off, volunteer sabbaticals, reimbursement for social work, community activities

Figure 40
Wellbeing Becomes an Expansive Market

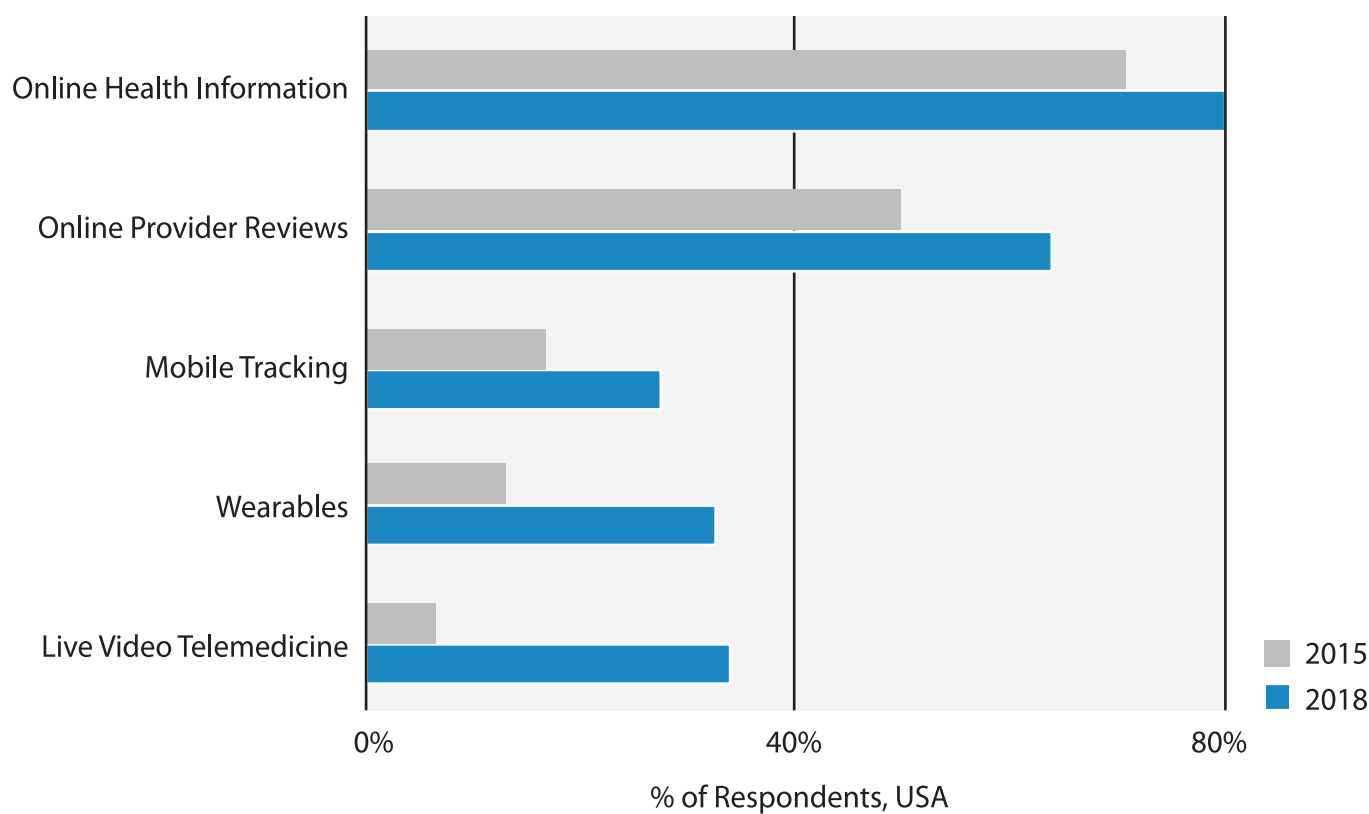


Figure 41
Consumer Adoption of Digital Healthcare Tools

As the data in Figure 41 shows, almost a third of Americans use digital services for healthcare delivery today, and more than 80% use digital information services for education, support, and service. The app Zocdoc, for example, helps you find a doctor and is modeled after Uber; Teladoc delivers doctor services online; Nurx and Pill Club deliver birth control online; and providers like Oscar and Rally Health provide online support, while providers like Clover Health focus on Medicare patients.

The areas with the most growth today are financial wellbeing (a 61% increase in spending), mental health (a 65% increase in spending), mindfulness and stress management (a 57% increase in spending), and telemedicine or remote care (a 64% increase in spending). Each of these broad areas is spawning dozens of technology and service providers, and I believe these will eventually become features in core HR platforms.

There are other shifts in spending related to wellbeing. Flexible spending accounts (FSAs) declined by almost 8% this year, according to a major SHRM study²⁵, while benefits for new parents (offered by 51% of companies), standing desks (offered by 60% of companies), group exercise programs (offered by more than 40% of companies), and apps for self-directed education and tips (offered by 38% of companies) all went up. You should look at the demographics of their workforce to make sure you're assembling the most popular, in-demand programs.

25. <https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/SHRM%20Employee%20Benefits%202019%20Family%20Friendly%20and%20Wellness.pdf>

US Suffers from Financial Illiteracy

- 40% of adults rated a C, D, or F on personal finance literacy
- 1/3 of Americans only pay minimum credit card balance and average credit card debt is \$15,000
- Median retirement balance is only \$3,000
- 50% of American households have no savings

This Has Huge Impact on Work

- Financial stress lowers productivity by \$250 billion per year
- 15% of college graduate salaries goes to student loan debt
- 64% of millennials feel financially stressed, 32% say it impacts their daily work
- 33 peer reviewed studies correlate financial stress to health and heart attacks

Figure 42

Major Gaps in Financial Wellness, *Source: The TIA Institute – GFLEC Personal Finance Index*

Financial Wellbeing

More and more evidence shows that workers need help when it comes to financial wellbeing. Vendors like Best Money Moves, EduKate, Sum180, Financial Finesse, Learnvest, Tomorrow.,me, and Daily pay are helping to meet this need with education, coaching, and individual assessment, loans, and advisory support. A new company, Nudge Global, actually uses neuro-science and AI to advise individuals and families how to better plan and manage their financial lives.

Because earnings have not kept up with inflation, many employees are also asking for more frequent pay, so a set of new vendors have emerged to help companies pay employees weekly, daily, or even based on work completion. Last year ADP acquired Global Cash Card²⁶, a company that provides cash awards and many options

for digital payments through gifts, cash, and other benefits. This market is exploding. Vendors like WePay, BlueFin, Achievers, Fond, RewardGateway, SalaryFinance, and many others now offer employers a wide range of instant pay and gift payment options, pre-payday loans, and other ways to help employees better manage their money. The biggest payroll vendors, ADP, SAP, and Ceridian are re-designing their core payroll systems to facilitate real-time pay.

26. <https://www.marketwatch.com/press-release/adp-acquires-global-cash-card-solidifies-leadership-position-in-employee-payments-and-extends-payroll-differentiation-with-acquisition-of-proprietary-digital-payments-processing-platform-2017-10-05>

Mental Health, Stress, Mindfulness

In mental health, mindfulness, and stress management, there are literally hundreds of providers who offer app-based coaching, training, event management, mediation support, and more. Vendors like Mequilibrium, Whil, Sleepio, Grokker, ADP's Spark, as well as platform companies like VirginPulse, LimeAid, and Provant offer behavioral-change tools to help people slow down, sleep better, meditate, and focus. There are hundreds of training providers in this market, and many are now nearly free. This new area of technology-aided wellbeing -- will explode in the coming years as AI-powered tools start to give us hints and nudges that will make us better at work. Humu, Microsoft, and Werk now offer tools to monitor our work behavior and give us tips to make us happier and more focused at work.

While the market has many specialized solutions, companies also want end-to-end platforms to plug these solutions together, so products like Wellthy, an integrated wellbeing and employee services app, will have appeal.

Telemedicine, Remote Care, AI-Based Support and Coaching

In telemedicine, remote care, coaching, and AI-based support, there is a massive new set of Uber-like products to help us find coaches and mental and physical health. BetterUp is an AI-based coaching platform that diagnoses your performance or work related issues and connects you to one of thousands of coaches to help you at work. Lyra and Spring Health do the same for psychological support, providing a range of AI-matched psychologists and other mental health diagnostics and services. Genentech took its employee assistance program (EAP), which is an intervention for various types of mental and family issues, and converted it to a series of peer-groups in the company, all powered by Lyra.

Fertility and family care is now a big market among younger workers. A particularly interesting new company is Cleo, which has built intelligent personalization and care practitioner network for new families. It helps working parents and new families navigate their journey from fertility to parenting.

Carrot, is a platform-based solution for fertility. It helps new families personalize a fertility plan, chat with experts, order meds, and access content to help with egg freezing, in-vitro fertilization, and other fertility solutions.

Another I find exciting is Physera, a company that has developed an app and network of physical therapists to help with various different types of physical therapy needs. If you have a back ache or injure yourself at work, Physera can help you diagnose the problem and directly connect you to a trained therapist.

DigiThera is another self-help solution that focused on behavior change programs around smoking, alcohol, and opioid addiction. The company was started by a team of doctors at Imperial College in London and offers an app-based solution based on years of research on behavioral change to help with addiction.

The Pill Club is an all-in-one healthcare service that provides birth control access across the U.S. and is backed by Stanford physicians. It is a telemedicine service that delivers birth control, emergency contraceptives, and free gifts to help women take ownership of their health and bodies.

Level.com is a new app, cost management, and network service designed for dentists. It helps employees find a dentist, manage their reimbursements, and offers a new dental plan integrated into its easy-to-use app.

Intelligent Matching Networks

One of the biggest opportunities in wellbeing is the efficient matching of vast networks. In every part of the wellbeing framework, there is a network of people who need help; these people need to be matched to a network of companies that provide services or expertise. As I get to know this space, I see more and more companies like BetterUp and Spring Health which build AI-based assessments and develop a network of providers who can quickly and intelligently be matched to employees in need.

These types of networks are typically acquired and used by healthcare providers, but as companies get more and more frustrated with the high cost of insurance, many are doing this directly. Most vendors now sell directly to corporate HR managers, which begs the questions of what the HCM vendors will do. I can see a scenario where smart HCM vendors build interfaces to these systems (this is what Sequoia is doing, for example) so they can provide one-stop shopping to their customers.

And as all this innovation continues, integrated healthcare providers like OneMedical, Magellan Health, and Galileo Health are trying to simplify and improve the entire end-to-end experience, becoming more and more attractive to employers who want to help employees avoid the difficult process of finding a doctor and getting treatment for complex issues.



Figure 43
Wellbeing Matching Opportunities

The Shift from Wellbeing to Performance

Given all this focus on wellbeing, one has to ask whether companies will pay for all these benefits? I think the answer is yes. The reason? We are moving from a focus on health and fitness to a new focus on employee engagement, productivity, and performance. So over time, I believe these tools will become part of an entire new performance and productivity suite.

If you think about the evolution, it looks like Figure 44. Just as HighGround was acquired this year by YouEarnedIt, one can see a market in which wellbeing tools become integrated with goal and performance management systems, eventually becoming part of the 21st century management platform. Today the two leading platform players in this space are VirginPulse, which has been acquiring adjacent companies this last year, and Limeaid, which is a very well run steadily growing company with very successful clients. Both offer behavioral change platforms that collect enormous amounts of employee data and can be used to analyze performance and productivity, point out accident and health risks, and give employees a very useful tool to make their work lives healthier.

Oracle clearly sees this coming and has been investing in a wellbeing platform and tools for employee competitions and contests in its core HCM platform. SuccessFactors has done the same by offering a variety of wellbeing training programs in its core platform and recently launched a new platform with Thrive Global. Workday has provided API integrations to VirginPulse with integrations to other vendors coming.

One of the tricky issues with these tools is the confidentiality of data. While most of us would love to have a work-provided platform to help us lose weight, reduce stress, and improve our sense of vitality at work, we are all very nervous about our employer knowing how much we sleep, what mental or physical problems we face, and how we struggle to focus or stay happy at work. A study in the U.K. just found that more than half of employees fear such workplace monitoring²⁷ and almost three-quarters do not approve of employer monitoring of mood or physical location. These new tools give employers an enormous amount of private information about employees, driving the need for a strong and well managed analytics team to care for the data. We also have to be clear and transparent about what data we capture and what we plan to do with it.

It's very clear to me that over the next several years, many of these markets will start to come together. Already the domains of stress, financial health, and coaching are coming together as studies show that one of the biggest causes of stress at work is a lack of financial security. Think about how these wellbeing topics are also impacted by management behavior, our ability to learn and grow, and the way we understand and achieve our work-related goals. All these topics impact each other, so over time HR departments will demand that they all come together.

27. <https://www.bbc.co.uk/news/business-45214424>

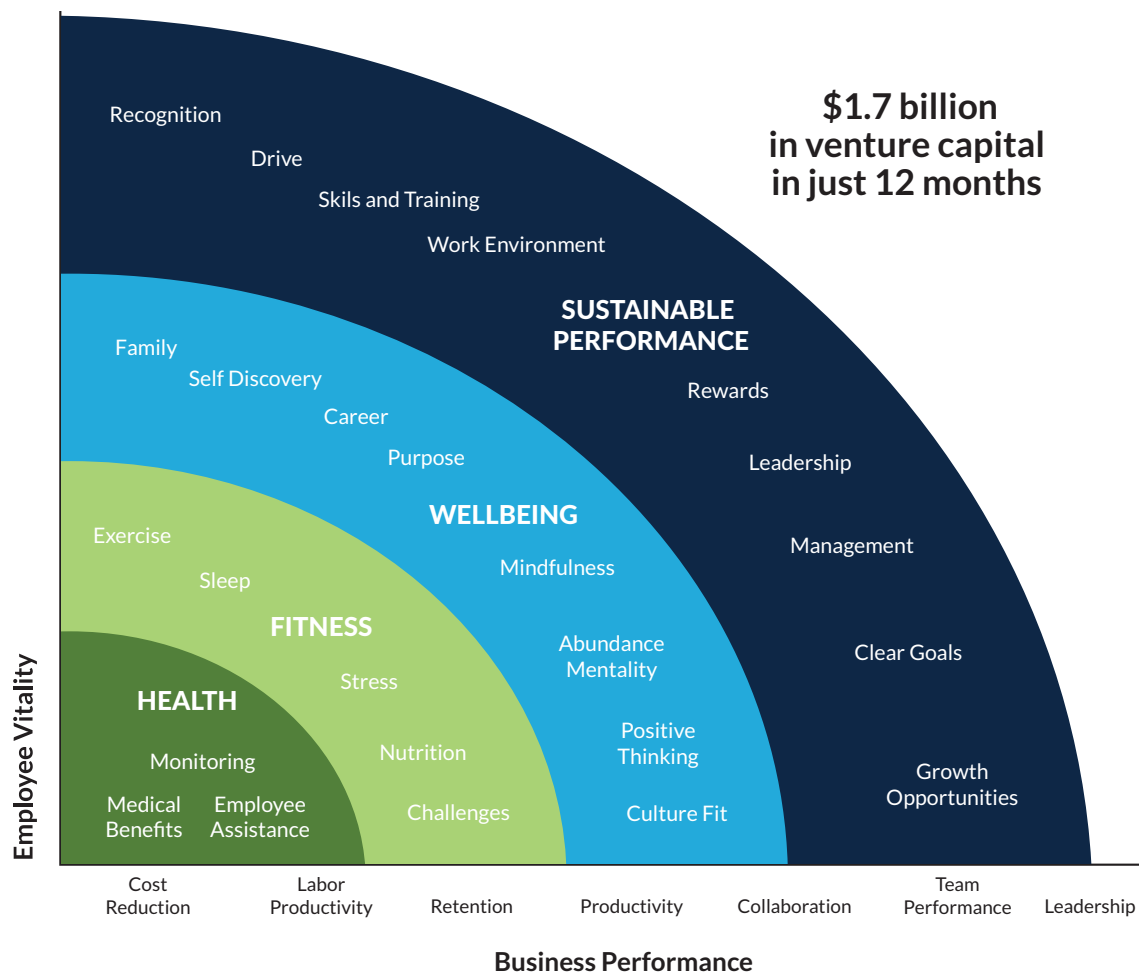


Figure 44
From Health to Wellbeing to Performance

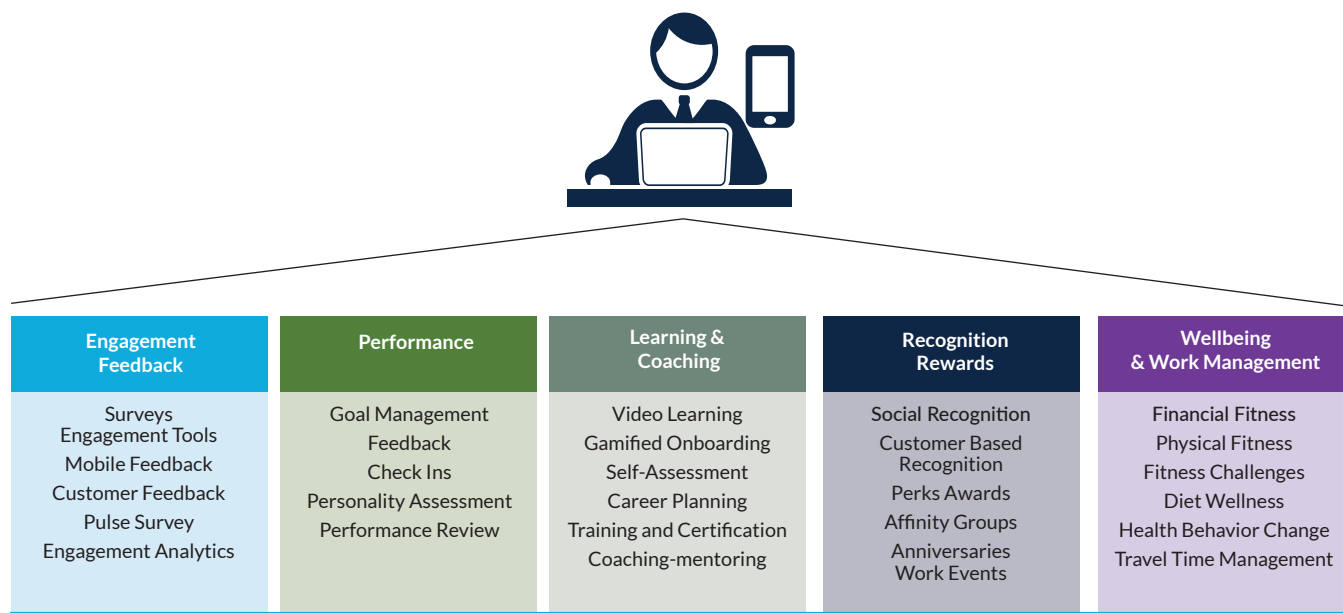


Figure 45
Convergence of Talent Applications Ahead

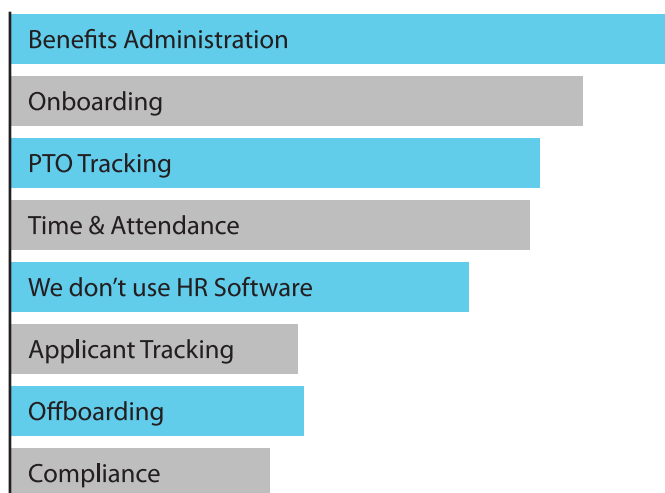
Integrated Wellbeing and Benefits Providers

As the number of wellbeing offerings grows, there is a greater and greater need for consultants, resellers, and integration tools to help you find what you need. As an analyst I can barely keep up, and the average HR manager certainly has no time to find all these offerings. As a result, there is a growing opportunity for benefits brokers and benefits integration portals, which are essentially tech tools, to make this easier for HR managers and employers.

One of the vendors that understands this well is a mid-sized benefits and employee services company called Sequoia, which serves the high-tech market in California. Sequoia has learned that the fastest growing companies, many of which are technology-based and highly dependent on intellectual property, want a wider and wider range of employee services to succeed. They don't just want an easy-to-use HR platform, they want all these wellbeing, education, and development services too.

Another example of this is BerniePortal, a technology and broker network which has built an integrated search engine for more than 200 different benefits and wellbeing programs. Providers like Quickbooks, which is widely used by small businesses to handle accounting and payroll, use this type of technology to help people find the benefits they need. Zenefits originally tried to do this as well, and after a spectacular failure is reinventing itself as a payroll and benefits broker platform.

This is a disruptive change in the market. As the job market continues to grow and employees' expectations continue to go up, HR departments will look for more integrated experience platforms that can bring together traditional HR transactions with wellbeing, benefits, development, coaching, and financial support. I can't predict how this market will evolve yet, but one could see these kinds of integrated benefits companies being acquired by the big ERP vendors as the demand for wellbeing and employee services continues to grow.



If you use HR software, which tasks are you using it to administer?

Benefits administration was the top task, followed by onboarding, PTO, and time and attendance

The least-automated tasks, according to the survey, were applicant tracking, off-boarding and COBRA administration, and compliance management

Figure 46
Administrative Uses of HR Software

11 Analytics, AI, ONA, and Natural Language Systems

I can't write about technology without explicitly discussing the world of analytics, AI, and cognitive processing. People analytics continues to be a big topic in the HR world and is now the fastest growing sub-domain of the HR profession, with 25% of companies hiring for this role²⁸.

This part of HR is like a moving target. The technologies are making analytics easier than ever, but the number of data elements and scope of problems we're trying to analyze is expanding at the same time.

Growth of AI: What Is It?

A few years ago AI seemed like some kind of black magic. It's now a well defined technology built into most modern software systems. One of the simplest ways to think about AI is to look at the simple, but profound illustration in Figure 48.

What Figure 48 essentially shows is that for the last 80 years or so, we've built software systems that start with the human programmer. People study problems or processes, design workflows, and the code user interfaces, logic, and data-driven algorithms to automate this work. I developed FORTRAN code in the 1970s, and this is essentially the same today.

In AI or machine learning, the opposite happens. The system starts with a set of data, analyzes the data, and then uses all sorts of programmed intelligence to identify patterns, sharpen assumptions, and create recommendations. It's fundamentally a data-centric solution, unlike the algorithmic-centric software we built in the past.

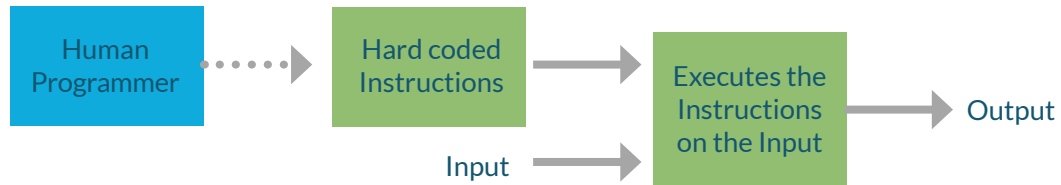
There are many applications of AI, including visual recognition, voice recognition, natural language processing, prediction, risk analysis, and more. In the case of HR, this gives us incredible new intelligence about all the people decisions we make -- who to hire, how much to pay people, what career to take, what courses to take, who to promote, and on and on and on.

These types of algorithms are now built into HR platforms, so more and more of the systems you buy are getting smarter. As this diagram clearly shows, they're dependent on data. So if your systems architecture is fragmented, you're going to have all sorts of prediction and recommendation machines all over your company.

The big message is that your HR tech architects and people analytics professionals need to start thinking about this. The predictions coming from the sourcing tool may or may not use the same data as the predictions coming from your learning tool which uses different data from the predictions coming from your career tool.

28. Sierra-Cedar 2018-2019 Systems Survey

TRADITIONAL PROGRAMMING



MACHINE LEARNING

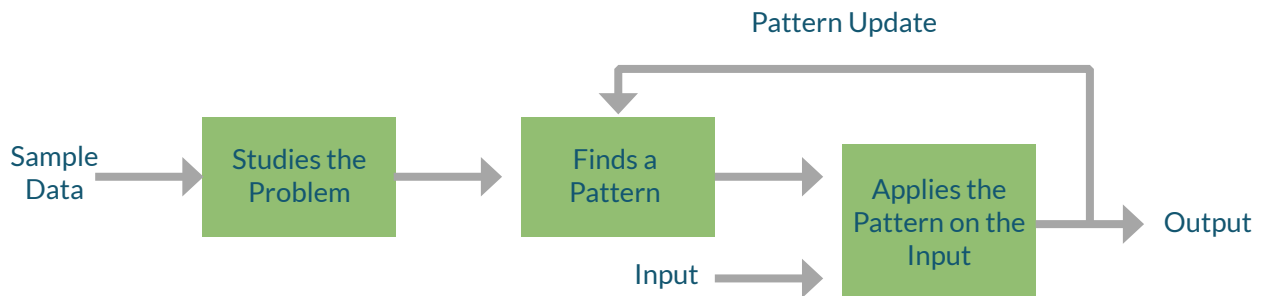


Figure 48
The Difference Between Traditional Programming and Machine Learning

Ever Increasing Demand for People Analytics

I've often noted that in most CHRO discussions, the topic of people analytics almost always comes up as a top priority. We have moved well beyond what we used to call HR analytics or HR data warehousing to a world where HR departments and business leaders want real-time data on the workforce they can use. Almost every leader we talk with cites the need for better analytics skills in HR

But this is a work in process. In the last research I conducted among larger companies, we found that almost three-fourths of companies surveyed are in the process of building an

integrated people database for analytics. Around 40% of companies that now have cloud-based HCM platforms already have their core data in an integrated place, so they are typically working to integrated learning, recruiting, and other data into this platform. But what's particularly interesting is that 15 to 20% of companies are now looking at new sources of data -- email metadata (who emails whom), badge data (employee location and time), sentiment (tone and nature of feedback and comments), and even health and fitness data.

The question companies typically face is around how far they should go with data collection. As shown in Figure 49, there are literally hundreds of data elements we can analyze in the analytics or talent intelligence system.



Figure 49
Data Available for Analysis

Moving Beyond Traditional Data: Data Scientists Here to Help

People Analytics has now moved well beyond HR, and is becoming the domain of true data scientists. And these folks have a lot of technology to help.

Data scientists, the true professional experts at analytics, are moving beyond traditional data to focus on graph databases (databases that model relationships, not rows and tables), knowledge (content connections and reputation), and the idea of an integrated data fabric, which is a new way of thinking about network databases.

Three of our largest clients (IBM, United Health Group, and RBC) all told me recently that they have many true data scientists assigned to work with HR. I've always felt that people data is not really HR data, it's business data. Therefore, we need to treat people analytics as a strategic business function. This means it may or may not start in HR, but it soon needs to be integrated into the rest of the company, so employee data can be compared with financial and customer data.

I recently talked with the head of employee engagement at United Airlines. The company has not only discovered that recognition has a huge impact on internal engagement, but that the most highly engaged mechanics are directly responsible for more on-time flight schedules. While this may seem obvious to many, it's an operational innovation that was only discovered because someone correlated employee engagement, retention, and on-time departures by city and team.

ONA Goes Mainstream

Part of the businessification of people analytics is due to the enormous growth of organizational network analysis. Let's face it, companies are not hierarchies; they are networks, and we finally have tools that can help us model organizations in this way.

ONA has been around a long time. Originally, it was an arcane practice used by consultants. It essentially means understanding the nature of relationships, the trust between people, and understanding frequency, mood, and the nature of conversations and ongoing collaboration.

ONA tools can use surveys, they can use email metadata from Outlook or Gmail, or they can look at communications through feedback and messaging tools like Slack or Teams. All this data forms a graph of relationships, and if you look at the data carefully you can find amazing things.

For example:

- One company found that sales teams that delegate more pricing and configuration responsibility to sales reps outperform teams that spend more time talking with their sales managers.
- Another company found that senior leaders who micro-manage first-line leaders by going around middle management create problems in employee morale and engagement
- Another company found that some leaders communicate in a very biased way, responding to women and minorities with far shorter and less frequent messages
- A company found that the highest performers have larger more diverse networks and also send more messages of shorter length.

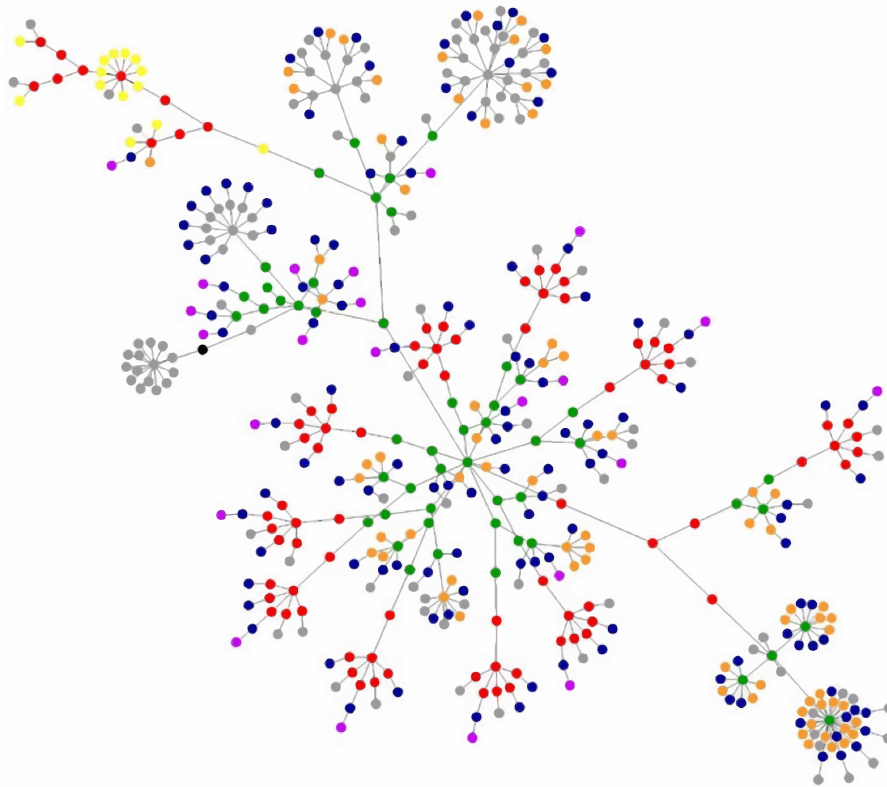


Figure 50
Example of Organizational Network Analysis

And the list goes on and on. You can now buy/implement ONA off the shelf from vendors like TrustSphere, Keen, Syndio, Polinode, Worklytics, Humanyze, Innovizer and others, or you can use the built-in ONA now available in Microsoft Workplace Analytics. Keen, by the way, believes its toolset would have predicted the problems of Enron, by identifying anxiety” in emails sent from teams involved in unethical financial statements.

Microsoft Workplace Analytics is particularly interesting because it is integrated into Office 365 and can look at messaging and calendar data in an amazing way. It can help individuals find out when they are over-scheduling themselves and give them hints to be more productive. It can help leaders and HR organizations find ineffective meetings by looking at meetings where people spend a lot of time emailing DURING the meeting. It can measure your calendar profile and see how much time you spend on internal vs. external meetings. And it gives each individual a personal dashboard to help you make yourself more productive.

United Health Group has now built their own graph database to analyze customer service and call center interactions and is identifying very powerful new patterns in high performers. This kind of data is simply not available in the core HCM system, and until core HR vendors adopt graph technology it will require other tools.

Your IT department can now do this easier than ever, using services from Amazon Web Services or other vendors.

Anzo is an off-the-shelf product IT departments can buy from a company called Cambridge Semantics.

Vendors like Oracle, SAP, and Workday would like to offer these types of tools (Oracle is most likely), but in most cases IT departments tie this together with a variety of best-of-breed products. What this tells me is that you must partner with IT as your people analytics strategy matures.

NLP and Chatbots Starting to Mature

Which leads me to another branch of analytics – natural language processing. This is a fast-maturing technology that most HR departments will discover in many of their existing tools.

I am not an expert in NLP but I've talked with many who are, and what they tell me is that this area is trickier than most people think. All the data you have in employee feedback, surveys, performance reviews, and conversations creates a stream of topics, issues, and themes to understand.

IBM, which has 20-plus data scientists in its HR department, has built a real-time NLP system that alerts the CHRO and her team when grievances or management issues arise in the network. Glint, one of the leading providers of employee engagement tools, can sense topics, actions, and real-time issues in surveys.

Some of the key NLP vendors include:

- Mya, the leader in recruitment chatbots. Mya pioneered the natural language conversations and modeling needed to communicate with job candidates. The company's product is now used by some of the largest employers to screen, assess, assist, and attract candidates. Leena.ai is a similar solution focused on internal HR service requests, Xor.ai is another focused on recruitment.
- Phenom People, Allyo, and other next-generation recruitment platforms. These companies are building chatbots that can communicate with candidates and understand many aspects of the recruiting process. Most of the ATS providers are adding these capabilities.
- Glint, Ultipros Perception, Perceptyx, and CultureAmp all have various levels of NLP in their employee survey tools. Most vendors are working on this and slowly becoming more actionable.

Let me tell you what I've learned about NLP and chatbots. They need to be trained and they need to be domain specific.

There are no general purpose chatbots or NLP systems that can understand any comment or question and give you interpretation or an answer. Each of these technologies is very

domain specific, and needs to be trained by your HR team as it becomes smarter and smarter.

For example, we are looking at adding NLP capabilities to the Josh Bersin Academy. Why? What we've found is that within large companies, the HR managers and leaders have many discussions about company-specific, location-specific, or department-specific issues, and we want people to be able to understand what these issues are overall. In our discussions with one of the NLP experts at MIT, he explained that we need to develop a set of topics and term" that the NLP can find. A term may be a three- to five- word phrase that has meaning.

For example, if your NLP is very simple and it identifies a conversation about vision in your company, you have no idea if this is people asking about vision coverage under an insurance plan or the vision and strategy of the organization. The NLP has to be smart enough and well trained enough to understand this context.

What this means is that your analytics team should have someone digging into NLP and talk with vendors who specialize in recruitment, screening, HR service delivery, or other domains. We all will learn a lot as offerings evolve in maturity over time.

HR Analytics Platforms

Almost every HR platform has an analytics module, and I recommend you look carefully at it before you buy the system. The vendors are scrambling to build better analytics every day and each has different levels of sophistication.

If you're a larger company, you're going to find a need to aggregate data from many employee-related systems. This means you either have to build your own data lake, the modern equivalent of a data warehouse, or buy a tool like Visier or OneModel. Oracle and SAP sell many data integration tools, and Workday Prism is also now an open data integration tool. But for the most part, these are generalized systems, and a product like Visier or OneModel, each designed for HR, will get you much more value quickly.

The bigger vendors (Oracle, SAP, Workday, Infor, ADP) have built very advanced analytics modules which can correlate and even recommend actions based on employee-related data. Depending on which core system you use, you're more or less tied to their system and you will find this functionality very useful. However it's usually not enough, because these offerings don't accommodate data from all the other sources I mentioned previously.

In HR, you are going to want to investigate a wide range of issues, such as why turnover in one office is 25% higher than another this quarter or why diversity measures in sales are 10% higher than in manufacturing. As part of your analysis, you'll want to know much more about these groups to see why these variations occur. Having an open architecture will let you do this, and this is why companies buy Visier or use Excel, Tableau, Microstrategy, Looker, Birst, or others. Again I personally think Visier is in a class by itself here, so I'd take a look at it.

Incidentally, since we are now so focused on pay equity, diversity, and fairness in job progression, the analytics teams are moving well beyond engagement into these important areas. Many vendors have out-of-the-box solutions for these fairness issues, but most companies have not used them enough yet.

Finally let me add that analytics is not really a technology problem. Rather, it's a problem of data management, governance, organizational design, and skills. There are a few things you must do to get started in the right direction:

- Prepare to do a lot of data exploration to find all the sources of employee data in your company. You'll then need to create an accurate data dictionary of to document the data's origin and definition. This is quite an important project and it lets your analytics team really spend time with different system owners and understand how their systems work.

- You have to build a relationship with your finance, IT, and even customer analytics teams to make sure your systems interact with theirs and you have a company-wide strategy in place for data sharing. Otherwise some of your analysis may not be credible.
- You need to hire one or two statisticians to make sure someone can look at data accurately and make sure you aren't over-predicting what the data may imply, or, on the flip side, that you're not missing anything material.
- You need to set up a process for working directly with the business --many companies now have analytics business partners -- so you can work together on the problems your business leaders care about. It is NOT a good idea to just explore data for interesting information. Focus your work on problems that are high priorities for your business leaders.

Developing Analytics Expertise in the Business

Let me add one more important point. All these analytics tools and strategies have to be coupled with an expanding and rapidly changing role for the HR business partner. There is a revolution going on in HR service delivery. Perhaps the most important HR role, the HR professionals embedded in the business have to be familiar, trained, and comfortable with data. They need to be able to answer questions regarding trends, performance numbers, or staffing needs and use data to support their explanations.

Market Confusion: How Do You Evaluate Vendors?

Perhaps the biggest market change of all is the sheer volume of tools and platforms now available. I get an email every day about another startup or VC-backed vendor focused on one of these segments.

How do you make sense of it all? My experience with clients and a sharp look at data from vendor surveys and the Sierra-Cedar report shows me that there are key questions to consider:

1. Does the product or system appeal to users? As simple as this sounds, it's the killer issue. It doesn't matter if the HR department thinks the system is cool, it only matters if your employees like it. I advise doing lots of pilots and let people try out a potential system. If it isn't considered useful, you'll have a struggle to drive adoption and usage.
2. Does the vendor have the culture of support and value you need? This is not a simple issue of vendor support. Rather, it's an issue of vendor culture. Some vendors are very sales-driven, but not very flexible with their products. Some vendors are very consultative in nature. I think in today's market you want the latter – vendors that really want to understand your needs in an honest way, and might tell you “our product doesn't do what you need.”
3. Does the vendor have referenceable customers like you? I continually coach vendors to pick their core market (i.e., SMB, mid-market, enterprise, global, industry vertical) because the marketplace is so huge and otherwise, they quickly get spread too thinly. If you can't find three to five customers just like you using a vendor's product, then you are going to be one of their pilot customers. That may be fine with you, but make sure you find this out in advance.
4. Does the vendor have a product team you can relate to? Somewhere in the selection and sales process, you will talk with a true product manager, not a technical sales evangelist. You should have your HRIT architect or functional HR manager ask this person some probing questions, and see how deeply they understand the domain you want them to

cover. It will often give you tremendous insights into the company's long-term strategy and level of knowledge in the details of HR.

5. Does the vendor have long-term viability in leadership, financial, and culture? The successful HR tech vendors I've worked with have lots of other strengths that go well beyond the product. They have focused senior leaders who bring passion and customer intimacy to their companies; they have financial strength of some kind (if they're profitable all the better), and they have a strong and enduring culture. Are the sales and service people happy and well trained? It's important to find answers to these questions.

It's also important to realize that vendors vary very widely in their customer satisfaction. If you read through the Sierra-Cedar study this year, you see vendors that have virtually no highly satisfied customers and others that have almost no unsatisfied ones. The ones most successful are those who are most focused, have strong leadership, and understand their market niches.

Vendor Cultures: Real Data

Finally, let me remind you that all software companies have different cultures. Some are led by technologists; others are led by HR leaders; many are led by seasoned entrepreneurs or business leaders. Because of the dynamic nature of the market, most HR tech companies are focused on growth and ultimate exit value, not necessarily your success. Therefore, it's important for you to validate whether a given product or company will work for you in the long-run.

I have become good friends with one of the senior MIT faculty who runs the CultureX, a team that has been assessing Glassdoor comments to understand company cultures. I took some time to create a small list of large HR technology providers so you can see how they vary in various aspects of culture. In the area of customer focus, you can see some big variations.

In the area of execution -- delivering on promises -- the list varies again.

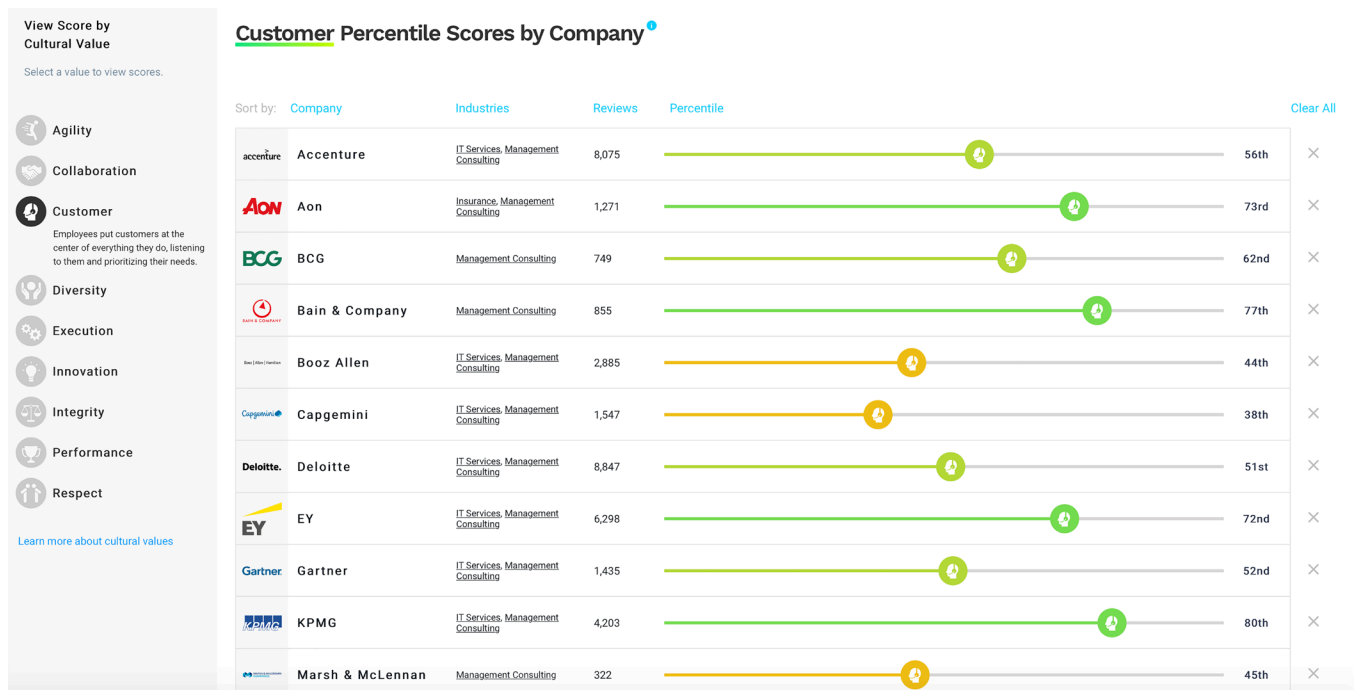


Figure 51
Analysis of Comments Related to Customer Focus, Taken from Culture 500 Research

My point is not to show you this data to help you select a given vendor, but rather to remind you that vendor cultures vary widely. Today vendors like Ultimate Software, Ceridian, Workday, and ADP are growing rapidly, so they are in cycles of heavy innovation and growth. Other companies like

Oracle and SAP are more mature, so they are focused on integration and quality. My recommendation is that you view conversations with reference clients and discussions with company executives as critical selection criteria.

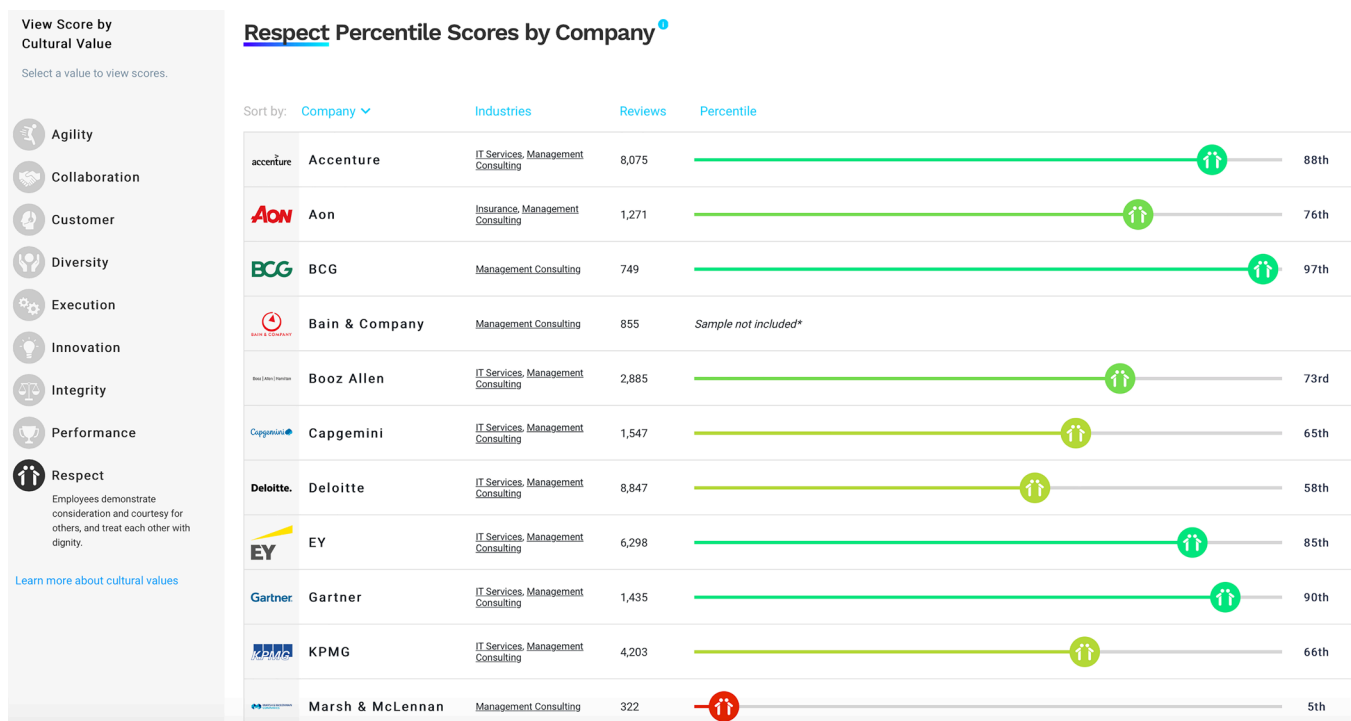


Figure 52
Analysis of Comments Related to Employee Respect, Taken from Culture 500 Research

Wrapping It All Up: HR in the Flow of Work

There's a lot here, so let me conclude with some context.

As most HR professionals know, it's impossible to manage people without tools. We desperately need systems for record keeping, pay, recruitment, learning, and many other things. The important question is how to manage all this technology in the most effective, streamlined, efficient way?

I think the theme is clear: HR in the flow of work²⁹. If you sum up all the challenges we face, the overall path to success is to make more and more HR technology disappear. That is, make it useful to employees, managers, and leaders. If it's useful, and it fits into our day-to-day work life, we'll find it valuable and HR will benefit. If employees find it to be an interruption and have to struggle to learn how to use it, we won't gain as much value.

The simple shift is moving from a world in which HR technology is an interruption, but something that must be used to world where HR technology is a solution that makes work significantly better.

Most of the tools and technologies I talk about in this paper bring us further in this direction. AI, chatbots, analytics, and feedback systems are all growing because they fit into

our natural human interactions at work. Just as consumer software companies have to compete with thousands of apps and websites that vie for our attention, so must HR systems compete with many other work-related activities to gain our time and mindshare.

I think we are in one of the most exciting and transformational time in this market. We have shifted well beyond systems of record and systems of engagement, and are now in an era where HR systems are truly systems of productivity. There will never be one system that does everything -- the number of systems of record in large companies went up to 9.1 this year! If you can architect, select, and implement your technology so it stays simple and truly increases productivity, everyone will benefit.

In the 15-plus years I've written this report I always remind myself that I learn from you. Please contact me with your feedback, opinions, and stories so I can continue to share with the entire global community.

29. <https://joshbersin.com/2018/09/hr-in-the-flow-of-work-a-new-paradigm-has-arrived/>

	1970s-1990s	1990s-2010	2010-2020 and beyond
Employee Focus	Loyalty	Engagement	Experience
Technology	Forms automation	Easy to use	Integrated into the flow of work
Product Architecture	A few major platforms	Integrated suites	HCM platform, experience plat-form, and dozens of apps
HR's role	Rolling out and training people to use the technology	Developing a global program to integrate the technology	Integrate the technology into workplace apps and existing tools so it's invisible
How we interact	Forms	Tabs and screens	Interactions, nudges, recommendations, voice, and AI

Figure 53
Evolution of the Workplace

The HR Technology Marketplace 2020: Explosive Growth, Ever-Changing

As an addendum to this report, I am including an overview of the HR technology marketplace. Developed in partnership with LRP, this part of the report is designed to help you make sense of the confusing number of vendors and tools in the market. As my wife once said when she went to a big HR tech trade show, “All these companies look alike!” In this section, I’ll try to help you sort that out.

Let me start with an image: the typhoon Jebi that hit Japan in 2018. It was one of the largest storms ever recorded, and it collected nearly all the moisture and debris in its path. It formed from the energy created through thermal stress, and created a vortex that took on a life of its own.

The HR technology market is very similar. Driven by the tenth year of economic growth, a very tight labor market for hourly and salaried employees, and a tremendous need to upskill, re-skill, and reinvent our skills, the HR tech market is growing

at an explosive rate. Add to this the fact that AI, advanced analytics, sentiment analysis, chatbots, and cognitive tools are now in production – and you have a typhoon that’s growing more powerful and harder to understand by the month.

In addition to this, companies are going through a massive shift toward a new model of management. People now work in teams; we communicate across the organization in real-time; people are working more hours and under more stress; and business executives have even higher expectations for growth.

One thing I’ve observed over my 40 years in business is that when the economy is growing, the pressure on CEOs is higher than ever. Shareholders and investors expect above market growth, which is harder than ever to achieve when every company competes for talent, brand, and customers. Innovation now reigns, so if we aren’t buying tools that make people more creative, service-oriented, and happy, then we aren’t buying the right stuff.

How big is the HR technology market? The International Labor Organization³⁰ estimates that there are approximately 3.3 billion people working around the world (2 billion men, 1.3

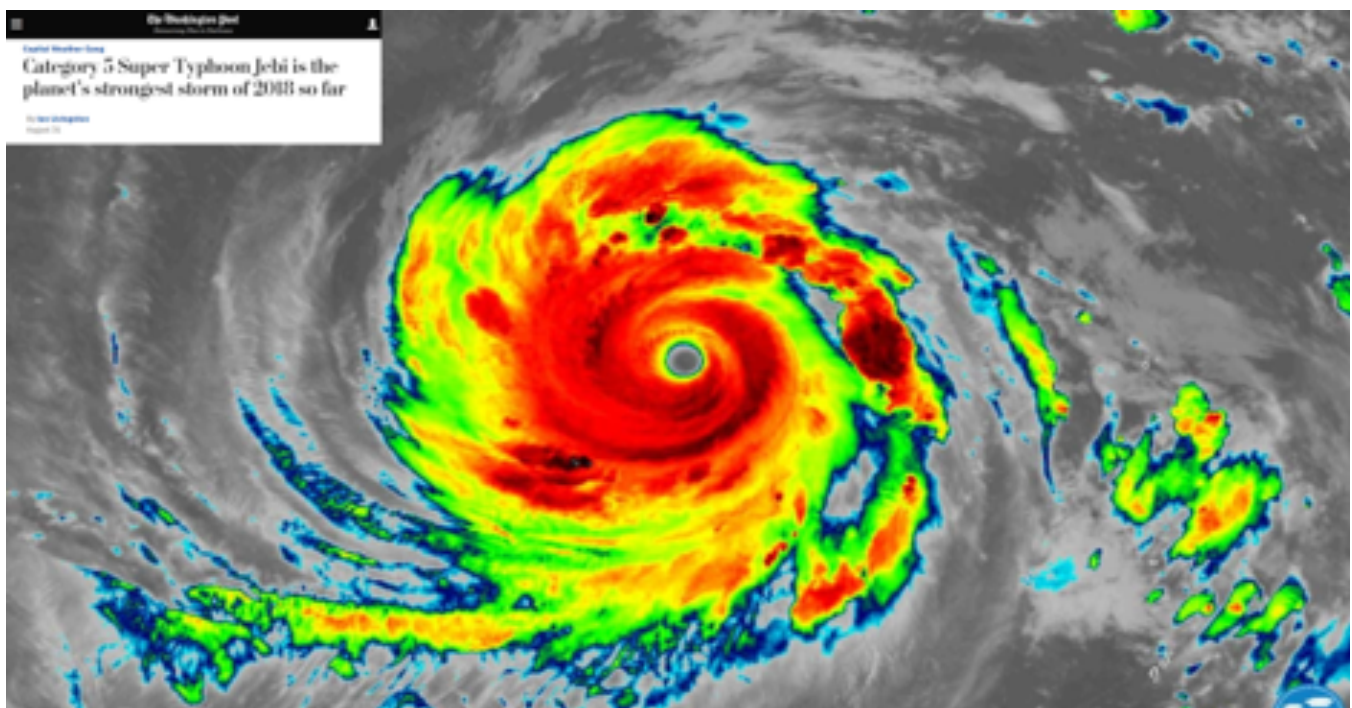


Figure 54
Typhoon Jebi: An Analogy for the 2020 HR Tech Market

billion women), and this number grew by almost 7% last year. Of that group, they distribute accordingly.

According to the Cedar-Crestone study of HR technology usage³¹, which is focused primarily on the developed economies in North America and Europe, large companies spend an average of \$176 to \$310 per employee per year, and this only covers core platforms. If we assume that developed countries spend an average of \$200 per employee on core platforms and developing countries spend an average of \$150, the total market for only these two segments alone is \$158 billion. While this is a very broad estimate, you can get a sense of how big this market is.

The growth rate in HR technology is also astounding. In 2019, 54% of companies have increased their spending, 42% were staying steady, and only 4% were decreasing. Of this spending, the fastest growing areas are talent management systems, core HR systems -- which are rapidly being upgraded with cloud platforms, business intelligence and analytics, and workforce management and payroll systems.

Interestingly, as much as the cloud is enabling companies to consolidate platforms, the number of applications per company is actually going up. In 2017's survey, large companies had an average of seven HR systems of record; this year they have over nine. So the market is diverging into an ever-expanding number of new tools and systems, making it more confusing

than ever to understand.

Let me add that from my experience this happens whenever the economy is growing and talent becomes scarce. Today we're in the peak of an up-cycle where venture capital firms and private equity firms have invested more than \$19 billion in startups and new ventures over the last five years³², making it easier than ever to build a new tech company. Private equity companies are investing aggressively, now trying to consolidate players to build next-gen end to end solutions.

I see the evidence of this growth in the number of vendors I hear from, the number of trade shows, and the vast number of booths and startup pavilions I run into around the world. When the economy slows down and businesses stop this rampant spending on HR, we will see an enormous amount of consolidation.

30. <https://www.ilo.org/global/lang-en/index.htm>

31. Sierra-Cedar HR Technology Study <https://www.sierra-cedar.com/research/annual-survey/>

32. CB Insights proprietary data

Location	Number of Workers	Level of HR technology
Developed Countries	572 Million	High
Developing Countries	295 Million	Medium
Lower Middle-Income Countries	1.2 Billion	Low
Under-Developed Countries	1.27 Billion	Little to none

Figure 55
HR Technology Maturity Around the Globe

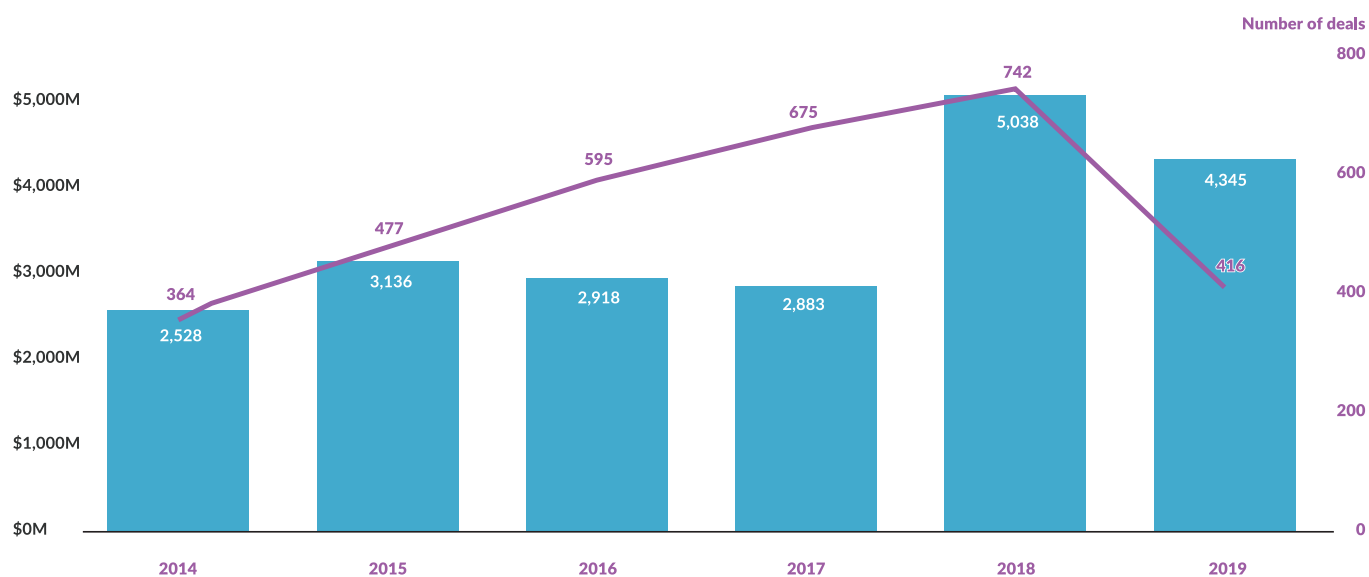


Figure 56
HR Tech Funding Activity from Jan. 1, 2014 - Aug. 17, 2019; Source: CB Insights

Twelve Categories of the Market

Because there are so many elements to hiring, managing, paying, and developing people, there are many categories of this market. To simplify the world for buyers and investors, let me summarize this into 12 major categories.



Figure 57
New HR Tech Categories

Core HR and Payroll

Every employee, contractor, or gig worker has to be paid. So among the thousands of HR systems companies buy, the most important is typically the HRMS and payroll application. And while many may consider this part of the market simple and transactional, it's one of the most innovative and complex areas of the market.

Payroll systems must manage country, state, county, and local taxes. They must accommodate many types of benefits and garnishments. They must address hourly, contract, and wage employees. They must interface with many different benefit, retirement, and insurance systems. So they are difficult and complex systems to build.

The biggest payroll providers are ADP, SAP, Ceridian, Oracle, Workday, NGA, and CloudPay. But during this economic cycle, we also see dozens of small business providers like Paychex, Gusto, Paycom, Intuit, Paylocity, Namely, Trinet, Zenefits, and Sage. If you are a small or mid-sized business, it's important to select a provider that does business in the states and countries you are likely to have employees. If you are a global company, you will most likely use multiple payroll providers, often local providers in different geographies.

The payroll market is changing rapidly. With more than 40% of the U.S. workforce now engaged in gig or contract work, payroll providers must accommodate many forms of pay – shifting particularly toward flexible or real-time pay. Real-time pay implies you get paid the day you work, for the hours, shift, or gig you complete. This places an enormous burden on the payroll provider, but they are all working to move in this direction. Gusto recently announced an offering they call Flexible Pay that lets workers pick their own pay schedule.

There are also a wide variety of new digital pay services available, and these are in very high demand from workers. One of the biggest is ADP's new Wisely range of services, which lets employees receive pay in a cash card and also automatically reserve and segment parts of their pay into different sub accounts for vacation savings, taxes, mortgage payments, or other needs. In fact ADP's research shows that younger workers often have multiple debit cards and have very little loyalty to traditional banks, so digital pay is an important trend to engage younger employees.

Core HR, the software that manages employee records, job history, performance, training, and other demographics, is also a critically important part of this segment. It is nearly impossible to run a company without some HR database, so these systems are used by millions of businesses. They are also very complex applications, because they must manage the company business structure and manage many forms of employee data. More advanced systems such as Ultimate, Gusto, and HiBob provide manager-level dashboards to help managers understand all the issues on their teams.

In the 1980s and 1990s, these systems were back-office HR applications and employees rarely saw them. Since the birth of the cloud, they have now become employee facing systems, and the most popular ones are as easy to use as a social network. Vendors of talent management software such as Cornerstone, Saba, and SumTotal have often avoided building core HR systems, but the market has now proven that companies do want their talent applications tightly integrated with their core HR systems, so more and more of these technologies are coming together. Cornerstone HR is actually a system that links together heterogeneous HRMS systems into a virtual network to avoid replacing existing systems.)

Most of the core HR and payroll systems vendors have decided to build talent applications as well. While this appeals to buyers, they struggle to stay competitive. The talent market segments are enormously innovative and core HR vendors often find they don't have the resources or product management expertise to maintain world-class features in recruitment, learning, engagement, wellbeing, and many of the emerging spaces. According to this year's Sierra-Cedar survey, the average large HR department has 11 systems of record, so it's clear many companies continue to buy best-of-breed systems. I expect the rapid pace of innovation in this area to continue.

In the core HR segment itself, there are quite a few changes taking place. Not only are laws and regulations constantly changing, but all the issues below are forcing core HR vendors to adapt.

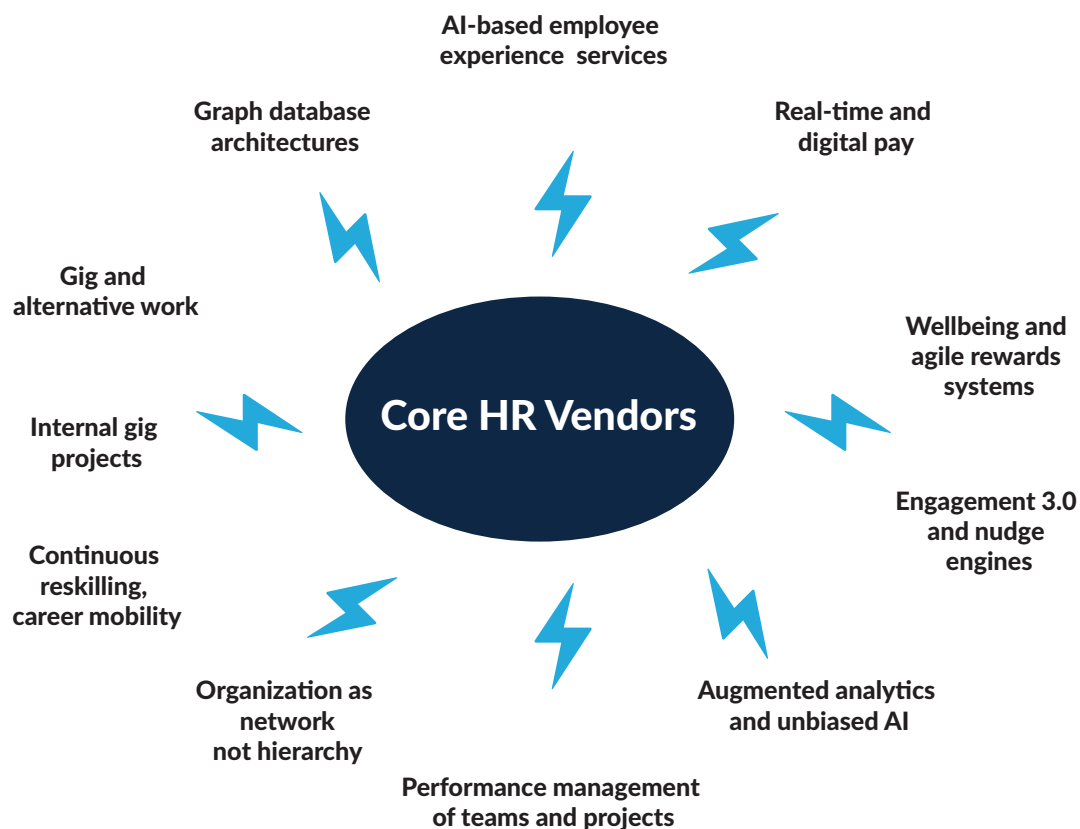


Figure 58
Disruptions Coming to Core HR

All these features shown are important capabilities which HRMS vendors must consider. And the biggest, which may eventually disrupt incumbents, is the need to build a network-oriented data management system that can manage companies with many teams, cross-functional projects, gig workers inside and outside the company, and a much more network-based model of roles, talent management, and leadership. This is why ADP is building an HRMS around a graph database, and Workday's architecture is network-oriented.

Because of all this change, the Sierra-Cedar research shows that 28% of all companies are planning on replacing their core HRMS this year. While this number is slightly down from last year, it represents a tremendous movement to cloud-based, integrated platforms. Those upgrading have used these systems for approximately 8.5 years, so they are often at the end of their systems' useful life. The features that often drive these upgrades include the cloud, AI-based analytics, chat bots, contingent workforce management, and upgraded talent capabilities.

Contingent and gig work is also changing the market. Considering that 40% of U.S. workers are contingent, and

almost 70% are deskless in industry segments such as hospitality, retail, healthcare, and manufacturing, there is a lot of innovation ahead in the core HR space.

Key Market Shifts

- Growth in SMB and mid-market HRMS and payroll systems, many of which may not survive in the next downturn or will be acquired
- Re-engineering of payroll to be more flexible, real-time, and holistic
- Digital pay solutions that pay by debit and credit card
- Focus on contingent worker management in core HRMSs
- Shift to network-based team models and new organization structures
- Embedded analytics and augmented analytics
- Building of talent technology ecosystems because of the inability to keep up with talent management tools



Figure 59
The Evolution of Employee Experience Market

Employee Self-Service or Employee Experience

The second major category, which we used to include in HRMS, is employee self-service. This whole market is now being redefined by companies like ServiceNow, PeopleDocs, Salesforce, and PhenomPeople. While self-service portals used to be included in the core HRMS systems, they are now independent products and growing very rapidly.

The new vendors in the market are now building case management, knowledge management, and intelligent tools to route requests to the right agent, and even use AI and chatbots to return answers. Over the next few years this will become one of the biggest infrastructure markets in HR, until consolidation occurs some time in the future. ServiceNow already has almost 1,000 HR customers and I would expect their growth to continue.

The demand for a single system to manage the employee experience has the potential to impact many vendors in the market, and most are scrambling to decide how to build more agile portal technology, case management tools, knowledge management, communication tools, chat bots, and process management tools to help companies build a single employee experience to all these applications.

ServiceNow, for example, just released a completely customizable onboarding application that lets companies create end-to-end mobile experiences for joining a company -- going through all the onboarding steps and creating a custom experience to get people ready to take on a job. It has built an entire experience design tool and a service delivery dashboard, explicitly positioned for these employee experiences.

While companies may believe there is an onboarding app in their HCM system, ServiceNow and other new tools have integrated a range of HR, IT, finance, and logistics functionality into a workflow-enabled toolset.

Pay and Rewards

The pay and rewards market is exploding in several dimensions. First there are now dozens of companies that provide perks to employees as gifts, for social recognition programs, or alternative ways to provide health and benefits. Companies in the rewards market (OC Tanner, Fond, WorkHuman, RewardGateway, Kazoo, Achievers, and hundreds of others) are now expanding their solutions as apps, so companies can use the tools for pay, rewards, recognition, and other forms of employee feedback.

In the pay area, the core HRMS systems continue to evolve and improve their pay platforms every year. Oracle has significantly improved its rewards application and is often considered one of the most fully functional in the market. Workday has moved into financial management through several acquisitions and is now building an integrated financial planning and pay system. Vendors like Mercer, Willis-Towers, and AON Hewitt and others continue to sell compensation planning and data solutions. And companies like Deloitte are now offering various forms of conjoint analysis to help companies determine which elements of pay are most valued to different employee segments.

In most companies, pay practices have lagged other talent strategies. The research I conducted in 2018 found that only 11% of companies believe their pay practices are fully in line with their business strategy. Payscale's 2019 study of compensation practices found that only 41% of employees think their company's' pay practices are good. Consider this data from the same study:

- Only 38% of employees know where they are in their pay band
- Only 32% of companies share competitive pay information with employees
- Only 29% of companies evaluate gender pay equity
- Only 7.6% of employees believe pay is consistent with company performance and alignment with culture.

The problem? Pay systems are not holistic enough, they are not customized for each individuals' needs, they are not revisited frequently enough, and companies do not always do a good job of communicating why pay is set at a given level.

Given that more and more data about pay has become transparent (ADP, LinkedIn, Payscale, Glassdoor, and many other providers now crowd-source pay), I believe over the next few years companies have the opportunity to vastly re-engineer their pay practices, leveraging the new digital pay systems in the market and making pay much more customized for each individual.

Workforce Management

Given the accelerating growth of gig work, part-time work, contingent work, and other forms of alternative arrangements, companies want systems to manage the time, projects, billing, hourly wages, and scheduling of all these people. For many years this was handled by time and attendance systems, a market dominated by Kronos. Today, there are both gig network vendors which serve as marketplaces for gig workers, and software providers who sell tools specifically to manage this workforce.

As I look at the 2,000-plus startups and early stage vendors in my database of HR providers, it's amazing how many are now focused on workforce planning, niche gig worker marketplaces, and other forms of industry-specific workforce management applications. This makes sense. Every hospital in the world, for example, has a unique set of requirements to schedule, organize, pay, and plan its nurses. These workers have specific skills and roles and in many countries are governed by particular laws. This is also true of manufacturing workers, retail workers, and many other segments.

Infor, for example, which acquired a series of vertical HR software companies, now has more than 6,000 hospitals as clients and is continuing to build workforce management tools for the healthcare industry. Legend, a fast-growing startup focused on retail, is building a multi-employer workforce management tool that lets workers schedule time between multiple part-time employers.

Integrated Talent Management

Integrated talent management software was the rage of the mid 2010s, but has fallen out of favor as companies look for ever-more innovative solutions in recruiting, career management, learning, wellbeing, and engagement. That said, the vendors in that market continue to grow.

The biggest end-to-end talent management companies are Cornerstone, Saba (which has acquired both Lumesse and Halogen), TalentSoft (a fast-growing European provider), SumTotal, Infor, and several others who have been through private equity buyouts. My research indicates that larger organizations continue to buy best of breed products, but mid-sized organizations want an integrated talent platform. The challenge these vendors have is that Oracle, SAP, Workday, Microsoft, and everyone else in the market is jumping into this space – so the competition is fierce.

The market for these systems is as large as the market for core HR and payroll systems, but since there are so many different ways companies can buy these products the integrated suite vendors must market themselves well to compete with many well-funded startups.

The integrated talent management suite market is nearing the end of its run, and will soon be replaced by a next generation of these systems, built on next-generation engagement, performance management, analytics, and learning tools. Bridge by Instructure is a good example of one of these offerings. When I look at the disruptions taking place in those markets, I see an opportunity for investors or big companies to buy up and integrate these next-generation talent tools over the next few years, essentially creating a 21st century integrated talent management market. While this has not quite happened yet, when the economy slows down and VC money dries up, I believe we will see this happen.

In the meantime the vendors in this market are growing at low double digit rates and they are doing an excellent job of finding customers with older ERP systems who do not want to embark on the massive effort it takes to upgrade their core HR systems in order to get the talent products of their core vendor.

Talent Acquisition

This marketplace is over \$200 billion in size and the software and platform part of the market is well over \$5 billion. Advertisements, assessments, interviewing tools, and many AI and recruitment management tools make up this complex market. It is one of the fastest growing parts of the HR tech market right now, primarily because the job market is so competitive. I recently visited Russia and Romania, where the unemployment rate is below 3%; in Japan it is closer to 2%). The market is also very fast growing because of the volume of new AI-based solutions, from chatbots to intelligent search engines to various advanced forms of assessment, bias management, and process management.

We are in the middle stage of a massive replacement of legacy systems like Oracle/Taleo and IBM/Brassring today. These two vendors at one point commanded almost 40% of this market (they are still over 20%), but more and more companies are starting to replace them. SmartRecruiters is now capable of enterprise-scale functionality and there is a host of smaller new vendors to choose from, including Greenhouse, Lever, JobVite, and PhenomPeople.

Performance Management

Performance management software is an enormous niche market that emerged in the last five years to help companies replace their traditional end-of-year assessment. It is an innovative marketplace filled with small and mid-sized technology firms providing feedback, goal management, and various types of team management capabilities.

It's not clear how long all these companies will grow, but almost every major corporation I visit is shopping for these tools because core ERP vendors have not innovated in this area. Right now, the market for these next-generation tools is less than \$1 billion in size, but as market consolidation starts, I believe it will grow.

Most companies who buy a new performance management tool later realize that they system needs a complimentary set of functionality in learning, coaching, goal management, and even team productivity. As Microsoft Teams, Slack, Workplace by Facebook, and other productivity tools become popular, I believe these performance management tools will become deeply integrated into the systems of productivity.

Corporate Learning

The L&D tools and platforms marketplace is undergoing a renaissance. There are hundreds of new vendors developing video authoring, micro-learning, mobile-learning, virtual reality, search, AI-recommendation engines, and even chat bots for learning. Given that global U.S. L&D spending is around \$220 billion and roughly 12% of this goes into various forms of tools, the market is over \$40 billion in size.

The biggest shift in the market is the move away from the LMS as the core learning platform to a world in which the LMS is one of several important components of the learning architecture. Learning management systems still play an enormously important role in this market, but as LXP, micro-learning, video, and program management platforms collect more and more learning data, it's clear that over time the LMS will play a smaller role. LMS vendors are very creative companies and they are evolving their products to be more open, more functional, and more essential to the market. That said, I believe the percentage of global L&D technology spending going to LMSs will shrink and more and more money will be spent on these exciting emerging categories, all of which create the dynamic, self-directed, intelligent learning experience employees want.

Total Worldwide L&D Spending by Program (\$ Billion)

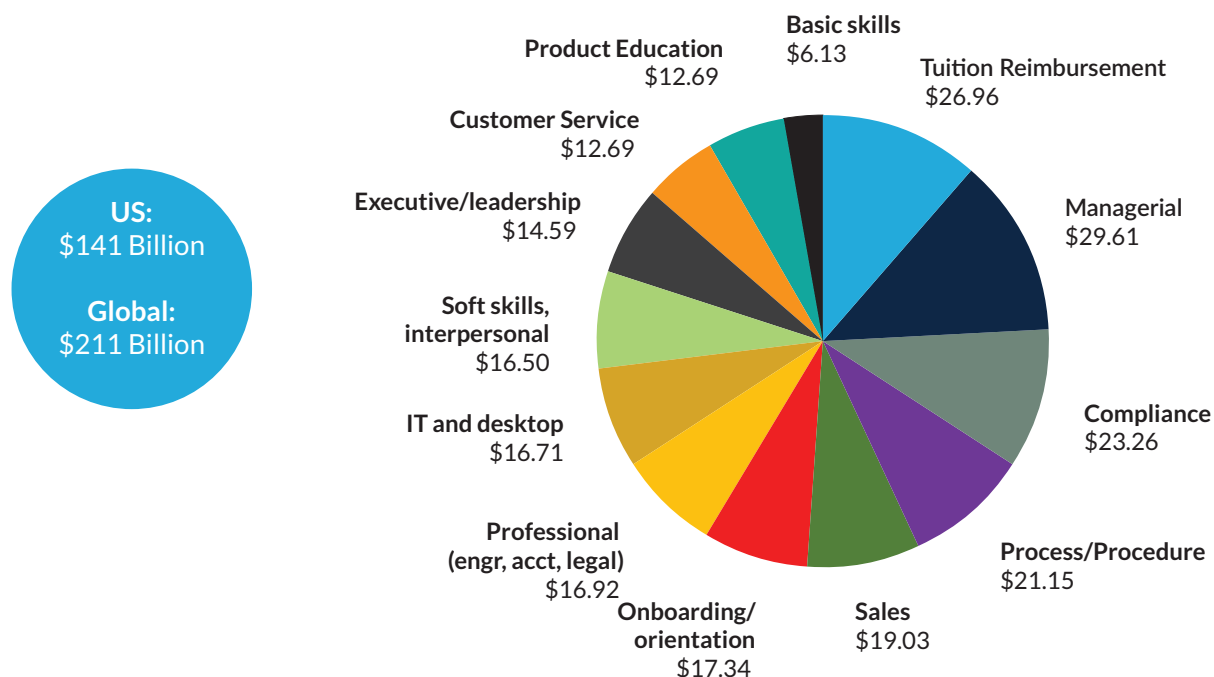


Figure 60
Worldwide L&D Spending by Category

Corporate Wellbeing

The \$48-plus billion market for wellbeing solutions is expanding in many directions. Not only are there a myriad of apps to give employees behavioral change nudges, online training, resources, assessments, and various forms of fitness tracking, the market now has a variety of fast-growing network providers which offer psychologists, medical specialists, coaches, mentors, and other forms of wellbeing.

I've recently met with a series of leaders to discuss their wellbeing programs. The problem most face is doing too much. There are so many vendors selling so many products, that we keep filling up our shopping basket with more and more items. Companies do not want 90-plus wellbeing programs; rather they want a curated and designed set of programs that meet the needs of their key workforce segments.

For example, a leader for a large beverage manufacturer showed me how road-warrior sales people used very few of the programs developed for traditional white collar office employees, but they desperately wanted exercise and fitness advice for people who sit in their cars all day. The same company has a large workforce located in Mexico, where employees were desperate for basic drug treatment support because providers there are fewer and more expensive. HR departments have to get to know what your employees really want before you buy all a large number of solutions. One of the HR leaders I met with in Romania found that 80% of her company's wellbeing solutions were not widely used. So after conducting surveys and interviews, she redesigned her company's offerings.

For vendors and investors, what this tells me is that the fastest growing vendors will be those that provide niche solutions and also those that can provide a highly customizable, employee-specific offering that meets the need of a certain type of role in a focused and effective way.

Diversity and Inclusion

Believe it or not, D&I is now a technology category. Almost every recruiting platform, for example, now has a set of features, reports, and AI recommendations to identify bias,

reduce bias, and help companies recruit minority candidates. SuccessFactors includes an entire suite of products to identify bias in pay, promotion, interviewing, and hiring. LinkedIn just announced an offering called Diversity Insights embedded within its Talent Insights system that lets you immediately benchmark your diversity in any job, role, location, or other demographic. And vendors like Textio, Pymetrics, STRIVR Labs, and many others sell specialized technology that can assess candidates in an unbiased way and give managers VR experiences to teach them how to reduce bias.

I have not yet tried to size this market but plan to do more in this area over the coming year. If you are an investor interested in this space, you should look at companies like FairyGodBoss, HiringSolved, InvolveSoft, Panopy, Blendoor, and Noirefy, all of which I believe will grow rapidly.

Analytics and Workforce Planning

The big trend in this space is that it's getting so big that all the major players now have solutions. Microsoft Workplace Analytics, Workday Prism, SAP's analytics offerings, and LinkedIn Talent Insights have all matured significantly and companies can now analyze their employee data in ways never before possible. Most of these systems are starting to collect and manage organizational network analysis data, opening up a large market for smaller players like TrustSphere, Keencorp, and others.

The biggest vendor in the standalone analytics space remains Visier, which is a company I've been a fan of for many years. Visier continues to help companies aggregate and integrate all different types of employee data and provide out-of-the-box reports for managers, leaders, and HR which use AI and augmented analytics built in. A similar company, OneModel, now offers end-to-end data connectors between many of the off-the-shelf HRMS and talent platforms.

The market for standalone analytics tools remains large, but it will never be as massive as the traditional IT tools for analytics. As data management solutions get better, I think the market for independent tools will remain limited, except for some of the vendors who focus on HR-specific solutions.

In the area of workforce planning, there are more than 30 startups building systems to help companies manage the entire tapestry of workers: full time, part time, gig, and contract. I expect these vendors to grow rapidly as HR departments come to grips with the fact that they must be more involved in the total workforce planning effort in their companies. Right now, fewer than 35% of companies have a total workforce plan. Most plan for different segments independently and often the only plan that exists is an annual budget and headcount allocation. In the new world of highly contingent and specialized talent, we need better systems to do total workforce planning. I know the ERP vendors have this on their list of things to do.

Workplace Productivity

Let me conclude this segment of the report with perhaps the biggest disruption taking place in HR technology: Microsoft, Google, Facebook, Slack, and LinkedIn are all pouring money into HR technology. Since your IT department is doing business with these companies in a big way, you as a buyer should be aware of these products and how they may complement or replace some of the specialized expensive HR tools you buy.

In learning, for example, Microsoft Teams has video authoring and translation capability that far exceeds many of the features

of dedicated LXP or video providers. In engagement and feedback, tools that plug into Outlook, Slack, or Teams will be far more successful than those with stand-alone apps. As Facebook starts to market and sell Workplace, the company's collaboration and team management platform, I see more and more HR vendors building plugins to its environment. This will be the future as HR in the flow of work continues to dominate.

This also begs the question of what happens when Trello, Basecamp, Asana, and other team management tools grow entrenched in companies. These team productivity systems make up a multi-billion dollar market and whether you buy Microsoft Teams, Slack, or another system they are ultimately great places to learn, develop goals, give feedback, and develop chat bots that perform many of the functions of HR. I believe employee self-service, wellbeing, and many of these markets will manifest themselves in these platforms.

I met with the head of HR for one of Europe's largest retail distributors recently and she told me they put their entire suite of HR technology into Salesforce. They have selected and developed tools that let people set goals, look up various benefits and HR data, and do most of their compliance and learning within Salesforce. It has been a tremendous success. This type of implementation will become common in the year ahead, giving the productivity platform vendors a major role in the HR technology landscape.

Conclusion

I've now written this report for 16 years and plan to do it for many years to come. I hope it gives you insights into the marketplace and some strong signals about where things are going. My goal is to help buyers make more educated decisions; vendors better plan for growth; and investors become even more successful with projects.

As always, I appreciate your feedback, corrections, or any debate about any of these issues. 2020 is going to be an exciting year in HR technology. I look forward to helping you continue to understand it all and bring value to employees and organizations around the world.

In the meantime, if you are selecting or evaluating HR technology, I encourage you to join the Josh Bersin Academy (<https://bersinacademy.com>) where we have a variety of courses to help you develop your technology strategy, develop an RFP, with your team to create a short-list, and evaluate and select vendors for pilot.

You can reach me at <https://www.joshbersin.com> or on LinkedIn <https://www.linkedin.com/in/bersin/> and twitter https://twitter.com/Josh_Bersin.

A handwritten signature in dark ink that reads "Josh Bersin". The signature is written in a cursive, flowing style.

About Josh Bersin



Josh Bersin is an internationally recognized analyst, educator, and thought leader focusing on the global talent market and the challenges impacting business workforces around the world. He studies the world of work, HR and leadership practices, and the broad talent technology market.

He founded Bersin & Associates in 2001 to provide research and advisory services focused on corporate learning. Over the next ten years, he expanded the company's coverage to encompass HR, talent management, talent acquisition, and leadership. He sold the company to Deloitte in 2012, when it became known as Bersin™ by Deloitte. Bersin left Deloitte in June 2018, but he continues to serve as a senior advisor and contributes to major research initiatives. He also sits on the board of UC Berkeley Executive Education.

In May 2019, Bersin founded the Josh Bersin Academy, the world's first professional development academy for HR professionals. Serving as the Academy's dean, Bersin is intimately involved in the content development for the Academy, the selection of innovative partners, and the creation of positive experiences for all Academy members.

Bersin is frequently featured in talent and business publications such as Forbes, Harvard Business Review, HR Executive, FastCompany, The Wall Street Journal, and CLO Magazine. He is a regular keynote speaker at industry events around the world and a popular blogger with more than 787,000 followers on LinkedIn.

His education includes a BS in engineering from Cornell University, an MS in engineering from Stanford University, and an MBA from the Haas School of Business at the University of California, Berkeley.