



HR Technology 2021: The Definitive Guide

joshbersin

Introduction



As an industry analyst, I spend many hours every year talking with HR leaders, vendors, investors, and consultants about the ever-changing world of HR technology. I've done this for over 18 years, and I love every minute of it. This market is fascinating, ever-changing, and vitally important.

My goal in writing these annual reports is to give you understanding and perspective of the current market. I do this with the belief that every product, every vendor, and every solution has value. My job is not to rank or rate these solutions but rather to give you unbiased and informed information to make sound decisions. (Note: If you work for a solution provider that is missing from this report or have an opinion different than mine, I want to hear from you.)

You can keep in touch with all my research at <http://www.joshbersin.com> where I regularly write articles and produce lots of studies on various parts of the market. You can also reach me on Twitter or LinkedIn. If you have questions, please submit them through one of these channels.

Josh Bersin

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The Big Reset: A Shift from HR Tech to Work Tech

HR technology is an essential part of business today. More than 12.1 million employers in the U.S. alone spend 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 \$240 billion per year and spans the range from 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.

Needless to say, the pandemic has radically changed the marketplace. Companies of all sizes have sent their employees home and are adopting remote work, remote meetings, and remote management at scale. Technologies purchased as experiments have become mission-critical, and every piece of HR technology is moving from “good to have” to “essential to survival.”

While there are many changes taking place, the biggest shift of all is the move from HR technology to work technology. This means that everything we now buy must feel useful and important as a tool for getting work done.

The Vastness of HR Applications

The first issue to discuss is the massive spread of HR applications into areas beyond payroll and employee administration. Yes, every company needs a core system of record that stores employee information and a system that models the company (who is in what job, who reports to whom, what level are people, their pay, benefits, schedules, and certifications). This core HR and payroll market is over \$15 billion in size.

But employers need much more. Consider the vast number of HR or employee applications shown at the bottom of Figure 1. Everything that happens at work – from the minute you leave home to the minute you clock out at night – is a step, stage, or series of activities that can be facilitated and improved by technology. In the year ahead, I see a *massive convergence between HR tech and work tech*.

This is not to say that the functions in core systems are not important; they are. In the core HR space alone, there are more than 100 vendors. They range from payroll companies like ADP, Paychex, Paycor to mid-market solutions like UKG (Ultimate), Ceridian, HiBob, Gusto, Bamboo to enterprise offerings like Oracle, Workday, SAP, SuccessFactors, and Infor. These vendors are all thriving to a degree (vendors that sell to small companies did see a slowdown), but they are all performing essential functions. And their most significant challenges have been adding more applications and building systems that are adaptive and easy to use.

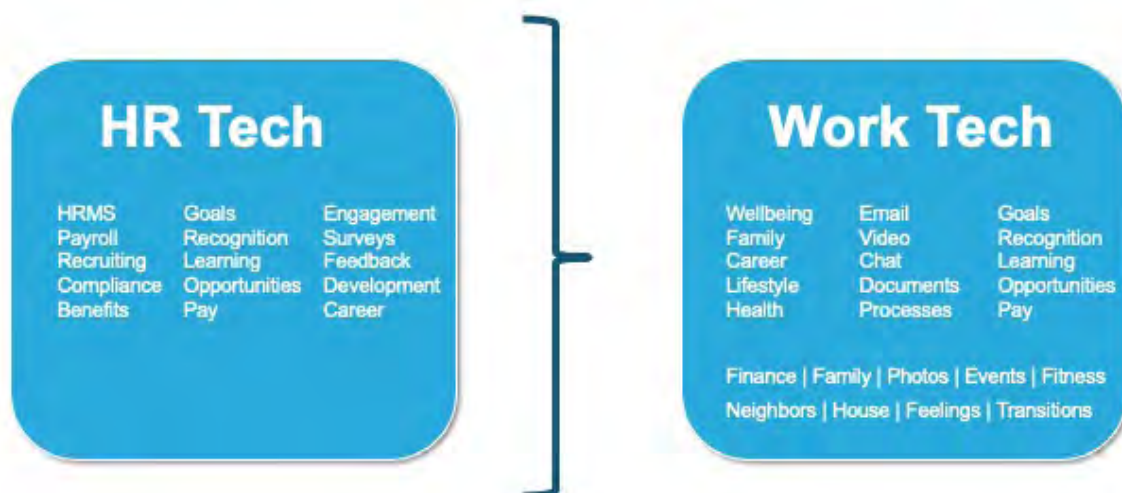


Figure 1: From HR Tech to Work Tech



Figure 2: Evolution of HR Functions to Work Tech

The big shift in 2021 is something that has been coming for a long time: a focus on employee experience (EX). Employees just do not have the time, interest, or attention span to log into an HR system, poke around looking for the right page, and then enter their vacation schedule. At most, they would be willing to chat with the system – but ideally, this would be an easy-to-use app that just fits right into existing tools at work.

I draw this new market in the red layer in Figure 3. This layer includes tools for communications, surveys, case management, and knowledge management and for building new workflows, chatbots, and portals. It is clearly the hottest part of the market.

The big incumbent vendors in this layer include ServiceNow, Microsoft, Workplace by Facebook; Workday, SAP, Oracle, and other core HR systems are adding experience layers. Even vendors like Qualtrics and Medallia are moving in this direction.

Tools in this layer (which one could call the employee experience platform) include many innovations: intelligent chatbots, video conferencing, recommended learning and development, case management, voice and video analysis, even organizational network analysis. One could even argue that Microsoft Workplace Analytics, which suggests focus time during the day, is really an employee experience system.

In many ways, these tools replace the expensive, enormously complex employee portal that many companies have built. The vendors are trying to develop single interfaces for employees – all to make people more productive, healthy, and connected to their peers.

Suppose, for example, you are a salesperson, and you are calling on a new prospect. How can you quickly see what industry information is available? What are the deals the company has done before? Who are the experts in this market? And what products should you sell? Logging into the LMS will not help you answer any of these questions. Nor will Salesforce tell you everything you need.

Or suppose you are a delivery driver. You may want to know where the accidents are and what hazards may be in your way. You may need an update on safety procedures and schedule a route or a shift. Or you may need to take several hours off. Will you poke around in Workday to figure out these tasks? Probably not.

There are hundreds of scenarios like this we deal with every day, and we as HR tech buyers and implementers must make these processes easy. Concepts such as workflow or ecosystem or app marketplace (ADP's term) are what makes HR tech work. And suppose you are a big company with a good-sized IT department. In that case, you're going to integrate needed workday functions into Microsoft Teams, Workplace,

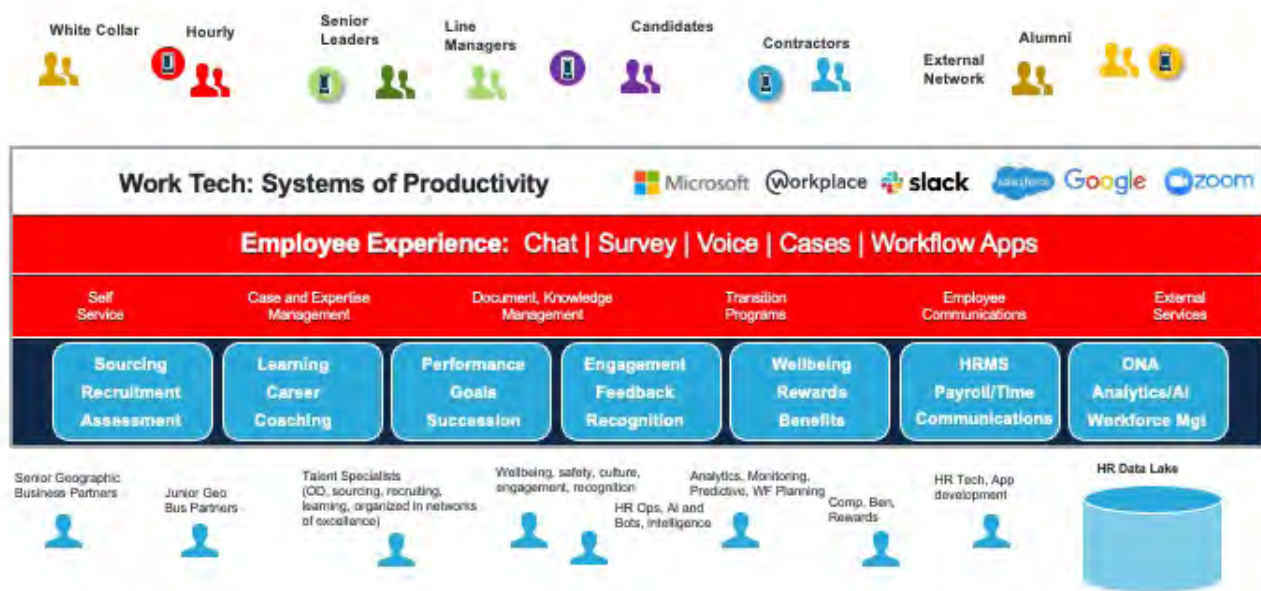


Figure 3: HR Tech Architecture for 2021

Salesforce, or whatever other infrastructure you already have. No employee wants to log in to the HR system unless absolutely necessary.

The Core Talent Apps Are All Evolving Fast

In Figure 3's blue layer, you see all the traditional HR systems, formerly called integrated talent management solutions. Twenty years ago, vendors sold applicant tracking systems, learning management systems, and core compensation systems. In the mid 2000s, these all converged through a major wave of acquisitions into integrated talent management suites.

But as with most enterprise software vendors, these big vendors lost their steam after some time. Innovation waned and a new breed of vendors emerged. So today, the big players (Oracle, Workday, SAP, Infor) compete with hundreds of players in every market segment.

Now the big vendors are moving again. Today ERP vendors (ADP, Oracle, SAP, Workday, Ceridian, Ultimate, Infor, and others) are as strong as I have ever seen them, and in 2021, they are innovating at speed. Most mid-sized or small companies can find an end-to-end platform that does many of

the things I point out, and the functionality is sound and easy to use.

For more innovative, forward-thinking companies, however, the blue areas in the architecture are changing. In learning, for example, the explosion of LXP vendors, micro-learning tools, and VR has been amazing. In recruiting, highly flexible systems provide applicant tracking, outbound marketing, video interviewing, and assessment. And for general talent management, the emergence of the talent marketplace can disrupt or possibly absorb many of these spaces.

There are two reasons these segments are growing so fast. First, businesses don't operate entirely in hierarchies anymore. Even though most companies have hierarchical job levels and pay, the actual activity we do is focused on projects, teams, and cross-functional work. Second, we now realize that as work and HR technologies merge, these tools have to be so easy to use that they fit into the flow of work. Vendors that had old forms-based systems are falling behind newer tools that are accessible through chat and mobile phones and embedded into productivity systems

And that gets me to the third big area of disruption: the growth of systems of productivity and HR tools that make work easier.

HR software used to be designed for HR managers: today, *it is designed for employees*. That means that if it is not easy to use, easy to modify, and embedded into the flow of work – it won't get used much at all. This is not an ease-of-use issue – it is a total redesign.

The companies that do this well are creating interfaces that work in Teams, Slack, Salesforce, Workplace, or other collaboration systems or they have open mobile apps.

ServiceNow has pioneered this to a degree by taking its entire suite of IT service management applications and adding employee-facing applications on top. This makes ServiceNow a “Swiss army knife” for companies to address many new needs, such as managing back-to-work issues, harassment reporting, or travel management. Other vendors that have built similarly configurable software include Avature in recruiting; Degreed and Edcast in learning; and Glint, Medallia, and CultureAmp in engagement. Microsoft Teams' new EX offering is a massive new offering in this area.

The Explosive Growth of Teams, Workplace, and Slack

Of course, the big story this year is the role of technology in response to the pandemic.

While many of us spend hours a day on email, text, or the internet, more and more of our business time is spent in Teams, Workplace by Facebook, Slack, or instant messaging systems on our phones. These conversational interfaces are the most natural ways to communicate now (even email feels more like a real-time system), so we must make sure all our HR-related applications are designed to operate in the flow of work.

Witness the numbers: more than 80 million people now use Teams every day, Webex has around 11 million users per day and 300 million total users, Zoom has more than 100 million, Slack has more than 10 million total users, and Workplace by Facebook has more than 5 million users. I would not be surprised to see every HR platform (from ADP to Workday) embed a live video streaming tool right into the interface. Think about how easy it would be to set up a meeting if the entire corporate directory, learning resources, and internal comms system were integrated with one of these systems.

I began writing about learning in the flow of work¹ several years ago. Today this approach is being implemented by dozens of vendors in all areas of HR. This is why Workday People Experience, SuccessFactors HXM, and most of the new systems for learning, career management, recognition, and feedback are all based on chat or portal interfaces that look more like consumer apps and less like transactional systems.

Consider the following scenario, described by Andy Biladeau, our director of consulting. Imagine an entire recruitment process built around a social tool like Teams or Workplace by Facebook.

- You join a company's elegantly designed Workplace group to monitor job openings, and your feed is updated in real-time with openings. Based on an NLP analysis of your profile and resume, you're automatically pushed a matching job req. At the same time, an AI bot scans your background, experience and network and automatically reaches out to vet you before moving you on to the next step. Don't worry. They've accounted for bias as they move you through experience.
- You're moved on to the interview phase via notification in Workplace, and it automatically schedules to your calendar. While you're preparing for the interview, the company pushes games and quizzes in Workplace to assess your EQ, communication style, and leadership tendencies.
- The interview happens over Facebook's platform, where you can either answer pre-recorded questions or converse live. You don't know this, but in the background, your body language, speech patterns, and tone are all being assessed and reported on. The analysis is passed on to the recruiter -- the first time TA intervened in the process.
- Then as you come to start your position, you are automatically connected to others with similar education and career backgrounds. You learn about your job, meet new people, and interact on Workplace. Then as you start your job, you set your goals, collaborate with your team, and send kudos to the wonderful folks who helped you get started.

¹ <https://www.youtube.com/watch?v=niOI9VoS7IY>

Skills: The Decomposition of Jobs into Fractal Work

Along with the disruption in how we work has been a disruption in who does what work. Last year I completed a massive research program with IBM (ultimately called HR 3.0²), and what we found is that one of the ten leading practices for high-performing companies is the focus on *skills as the currency of success*.

It sounds a little silly to make this a profound statement because I was focused on skills when I entered the workforce in 1978. (I spent two years in training at Exxon and then another year in training at IBM). But be that as it may, companies are desperately trying to define, categorize, and better assess and improve skills.

And this year, it's not just an academic discussion. For more than a decade, we have been listening to noise about how every person has to be reskilled or upskilled because of the fourth industrial revolution. The reality is that skilling employees has been a core principle of business since the 1800s. Companies have always had to train and upskill people; what's changed is how this work gets done.

I had a long call with a CHRO very recently, and she told me that one of the biggest missing capabilities in HR is the whole idea of work design or job design. Because among all the things we must think about (diversity, pay equity, leadership gaps, performance management, wellbeing, culture, and more), perhaps the most important is helping define *how* work gets done.

In the 1800s and early 1900s, we designed companies as industrial hierarchies. Most of our businesses were production centric, so we had engineering, design, manufacturing, finance, marketing, and sales in functional areas, each with hierarchies that employees climbed throughout their careers. This kind of organizational model worked well for a manufacturing-centric economy in which costs per widget go down as volume goes up.

Today, however, the economy is different. The U.S. stock market, for example, is valued at more than three times the country's GDP; five companies make up more than 23% of the

value in the S&P 500. These companies (Amazon, Facebook, Google, Apple, Microsoft) don't manufacture much of anything. They are service, delivery, and software companies. Today, those companies with intangible assets (the things you cannot see in the inventory statement) make up almost 90% of the entire stock market value.

Automation has not eliminated jobs – it has eliminated routine work. While hierarchies still exist on paper, we no longer have clearly delineated management and labor roles like we used to. Today, we are all in service roles to some extent. A software engineer is serving the team building the product; the delivery driver is serving the customer or the supplier; the salesperson is serving the customer or prospect; you as an HR or IT person are serving your internal stakeholder.

This means your job is not a fixed, highly repetitive role. You are essentially creating value through your work, and your job description is really more like a set of guard rails so you don't step on someone else's toes.

While you may have a job architecture in your company, in reality, people operate in roles or on projects. If you are an HR business partner, you have a wide range of responsibilities and tasks, but your daily work consists of projects, interactions, and activities. Your success is based on developing a set of complex capabilities.

A capability is not a granular skill like knowing how to use Excel. Assessing a candidate for a leadership position is a business capability built around a combination of hard and soft skills and supplemented with experience. These complex capabilities exist in every role and in every business. In our case, we have identified a set of 84 HR capabilities essential for modern HR.

For you, as a buyer of HR tech, you need to understand that skills are really only the starting points; they need to be rolled into more complex capabilities. While many vendors are selling skills clouds today, the real issue we have with HR tech is matching people to roles, identifying the capabilities they need to succeed, and continuously developing these capabilities through training, mentorship, job rotation, and external assignments.

2 <https://www.ibm.com/thought-leadership/institute-business-value/report/hr-3>

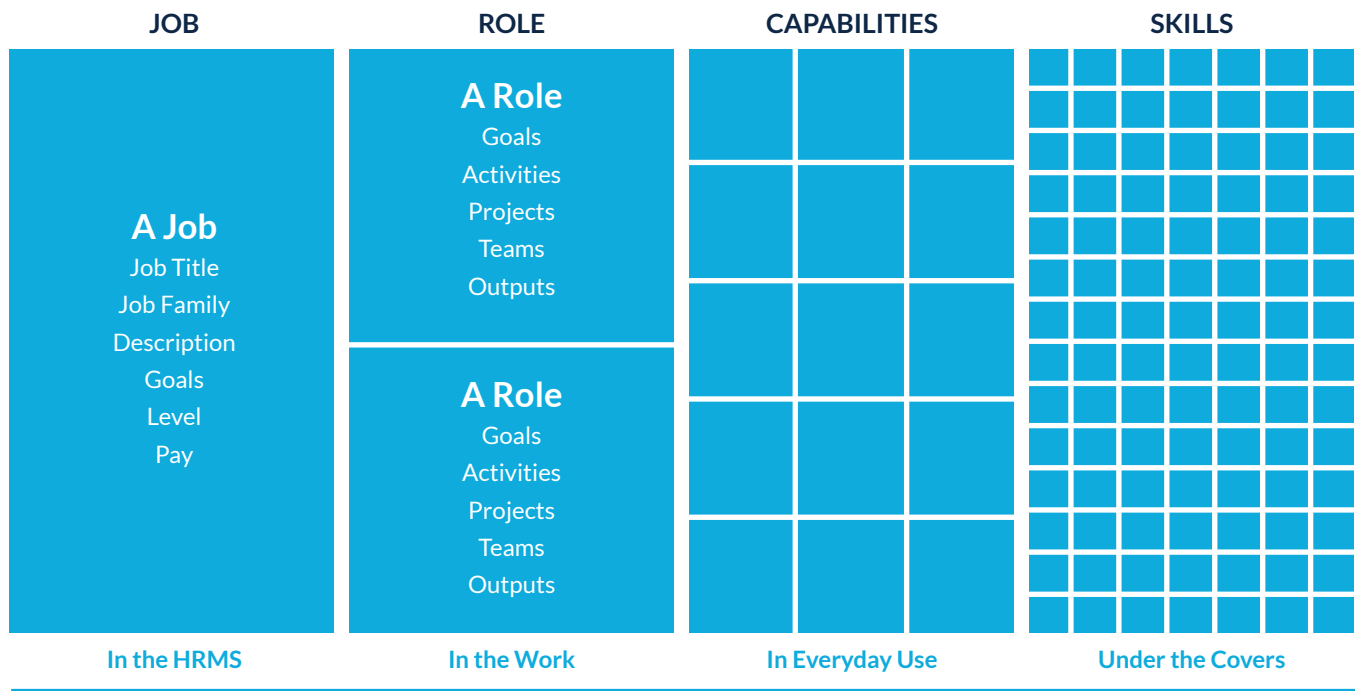


Figure 4: Jobs, Roles, Skills, Capabilities

I'll explain more about this in the learning section of this report, but my main reason for this section is to prepare you for what's next: the emergence of the *talent marketplace*.

A Big Shift: From Management-Led to Marketplace-Led

Among the many changes taking place in business and management, one important disruption is the shift from "manager led" to "marketplace led." In other words, your manager does not always make (or shouldn't make) all the decisions about what you do, how you spend your time, or even how much you make.

Think about it in your consumer life. When you want to reserve a flight or hotel room, you don't just buy it, you shop for it. From day to day, minute to minute, the prices change with demand. This helps you decide what level of service you want, how much quality or timeliness you are willing to pay for, and ultimately what the product or service is worth to you. When demand drops, the price does too; while in contrast, in-demand hotels and flights become more expensive.

In companies, we bypass the marketplace with managers, who set your value and help you determine your next job. This worked fine in the world of functional hierarchies because most of us rarely moved into vastly different roles. But today, when almost every project is made up of cross-functional teams, we need to find ways for employees to move much more quickly. We are seeing this play out now. One recent study found that 40% of U.S. workers changed jobs, roles, or managers this year.

Companies in every industry segment now realize that a marketplace model for talent is far more powerful, useful, and engaging than relying on managers to make all job decisions.

In a talent marketplace, HR processes like job assignment, goal setting, performance reviews, pay, career planning, mobility, and leadership development are all driven by the marketplace, not the manager. In a talent marketplace, managers serve more like coaches and less like bosses. Talent marketplace platforms, which started as simple search engines to find people and skills with the right jobs, are now becoming the center of the talent management market.

This is why every vendor is getting into this space. Not only do talent marketplaces help people find internal positions, they also give people career and learning advice, they recommend mentors, and soon they will measure performance and give companies the data they need to decide on pay. And they also have data around mobility, growth, and work output so they can be used for workplace transformation, diversity and inclusion analysis.

I believe the talent marketplace market is the most disruptive thing going on in HR tech, and that's why I'm spending time on it in this report.

Where We Are: HR Tech Moves in Waves

As I look back at the HR technology changes over the two decades, the market has essentially moved in waves, largely driven by technology, culture, and the economy.

- **Systems of record:** In the 1970s and 1980s, companies acquired HR systems to automate paper transactions, creating the employee system of record. Initially, these were mainframe computers, then client/server systems typically presenting the HR user with a screen that looked like a form.
- **Systems of talent:** In the 1990s and 2000s, tools for applicant tracking, learning administration, employee surveys, and employee self-service emerged. These 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. We called these integrated talent management systems.
- **Systems of engagement:** When the internet, mobile devices, and cloud computing arrived, vendors shifted their focus toward employees in an integrated way. 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 intended to engage employees. Companies rushed to buy these systems

because they looked like they would make employees more productive and help the company with its digital transformation. This is more or less where most systems are today.

- **Systems of work (a.k.a. systems of productivity):** Today, as we enter 2021 and beyond, the market is shifting again. Now we need tools that make work easier. These really feel like work productivity tools first, HR tools second. Performance management tools are now team management tools; applicant tracking systems are now candidate experience platforms; training systems are now talent marketplace platforms; and all the tools we buy for pay, rewards, wellbeing, and recognition are being added on to Teams, Slack, and Workplace as apps.

Buyers now face two big challenges. First, each of these four areas continues to be important. You cannot build a system of work 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 these things 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 20³). Architecture continues to be important, and I'll explain the new architecture for HR technology later. (Hint: It is not based on buying from a single vendor.)

Second, there is 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. HR departments are now forced to be general contractors, selecting specialists and tools and deciding what to build. No two companies have the same suite of systems.

3 Sierra-Cedar 2019-2020 HR Systems Survey

Systems of Record	Systems of Talent	Systems of Engagement	Systems of Work
• 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	• 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	• 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	• 2021 and beyond • Focused on employee journeys, interactions, and every day needs • Integrated into Teams, Workplace, Salesforce, Slack • 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 5: Four Stages of the HR Tech Market

Vendors continue to try to offer one-stop solutions. Workday, SAP (Intelligent Enterprise), ADP (Next-Gen HCM), Oracle (HCM Cloud), Ultimate (now merging with Kronos), and all the small business vendors (Paycor, Paycom, Gusto, Zenefits, HiBob, and others) are trying to lash it all together.

There were some very big deals this year, and I have to point them out:

- Cornerstone acquired Saba and thus became the number one provider of LMS platforms by far. It is now at approximately \$745 million in revenue, so it is trying to assert its leadership in the core learning market.
- Workday introduced its talent marketplace, skills cloud, and people experience along with a wide range of upgrades. Workday Learning has yet to become a full-fledged learning management system, but it's gaining speed. And Workday's Talent Marketplace, Career Hub, and DEI solution are going into production this year.
- Oracle has refreshed its entire suite and added a talent marketplace along with a social network and best-of-breed compensation tools. Oracle is at the sweet spot in its HCM evolution, and the end-to-end solution is very competitive.
- SAP SuccessFactors is entering an important phase of growth. Now totally re-engineered and called HXM

(Human Experience Management), the system is fully chatbot enabled, much more integrated, and built into the new SAP Intelligent Enterprise. And SAP has totally re-engineering its skills and learning systems into a system which I believe has enormous potential.

- Ultimate and Kronos were merged into a new company called UKG which is trying to grow its market cap as an integrated enterprise (this was a private equity deal with no real upside to customers).
- Qualtrics, which was acquired for \$12 billion by SAP, is now spinning back off, setting itself up to compete with Medallia in the experience market. And Medallia, one of the most successful customer experience vendors, is now fully pivoting toward EX.
- Vendors like Glint, 15Five, Lattice, CultureAmp, Perceptyx, WorkHuman, BetterWorks, Peakon, Quantum Workplace, YouEarnedIt, and other well-run companies in performance, recognition, and engagement are starting to merge products. Almost all these companies now offer goal management, conversations, enterprise surveys, and some form of recognition -- demonstrating how important it is for buyers to find fewer tools. The winners will be those who deliver real productivity systems, not HR systems.
- Learning vendors like Degreed, Edcast, Cornerstone, Docebo, and hundreds of others are growing and

delivering whole new ecosystems of digital-first learning solutions that move beyond the decades-old LMS.

- AI-based coaching systems like BetterUp, Bravely, and others are now bringing AI into the highly fragmented market for coaching, which is something every company needs.
- The recruiting market remains very competitive and healthy, even in the pandemic. Most companies are still hiring at some level (many at scale), and vendors like Avature, Eightfold, Smartrecruiters, and iCims are gaining market share. Smaller ATS vendors have not done as well, as the feature set becomes ever-more competitive, and the bigger vendors offer more flexibility and integrated functionality.
- Wellbeing platforms are healthy and exploding with growth. In addition to the integrated platforms like VirginPulse, Limeaid, Castlight, and League, there are now hundreds of powerful wellbeing tools for coaching, education, assessment, and healthcare delivery.
- A new breed of platforms for diversity, inclusion, and harassment reporting has emerged (Escalera, Vault).

HR Tech for Creators: Building Experiences

There is another significant change going on. The stress of the pandemic and challenges of working from home or working under trying front-line circumstances has left many employees exhausted. After becoming very familiar with Zoom, messaging apps, and easy-to-use productivity tools, employees don't have the time, patience, or energy to deal with hard-to-use HR stuff.

Almost 80% of respondents in our business resilience research told us they are burned out, busy, and overwhelmed with work. What this means is that we must evaluate technology by ease of use and the joy it brings to employees, not its features or arcane business rules.

Many studies show that consumers today spend more money on experiences than they do on goods. The service economy is now the biggest economy sector in the United States. Every

one of us has slowly changed buying priorities from “this is a good product” to “this product and company delivers a good 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 already changing HR tech in a big way. Just as Amazon, Google, and Facebook are trying to build the front door to their technologies with Alexa, Google Voice, or other tools we can talk to, AI enables 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 now build systems that model and mimic those actions to make them easier.

I recently talked with the leader of a large technology company that has built a whole HR service center focused very specific moments that matter – ranging from dealing with low-performing employees to onboarding and job transitions to significant family changes to managerial training and support. This company is demonstrating a shift away from an emphasis on HR processes to one on employee journeys.

In fact, as the employee experience wave grows, HR departments are changing their whole service delivery model. When one thinks about all the interactions and journeys employees go through, you quickly realize the need for multi-disciplinary service delivery teams, coupled with IT, to provide the right level of support. HR platforms that only focus on siloed aspects of HR are not designed for this change.

From a technology standpoint, we also have to recognize that mobile-first design is what employees want. 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 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 90 million households have Alexa or Google listening devices, and there are more than 300,000 Alexa "skills" (applications that understand your voice). We have to assume that HR tools will be accessed by voice on our phone, not by mouse on our PCs.

Finally, let me add the paradigm of TikTok. TikTok has rocketed into one of the most popular and engaging apps in the world. Why? It's fast, easy to use, fun, interesting, and serves as a development tool. Anyone can create a TikTok, unleashing the creator communities everywhere. Vendors like 360Learning have done this for corporate training and I wouldn't be surprised if creator tools become one of the most essential parts of the HR tech space. ServiceNow's new workflow developer suite is a perfect example.

An Example of Mashups in HR

Honest Burger, one of the high-end hamburger chains in the U.K., wanted to build an app that helped employees schedule their back-to-work shifts without forcing them to take public transportation. Using Workplace by Facebook as the platform, the Honest Burger team built a "mashup" app that lets employees send chat queries, look up their jobs and certifications, find the roles they're qualified for, identify their locations, and find shifts in stores within walking or bicycling distance from their homes.

This all happens without logging into a new system or finding a new app – it's done via chat. The HR team built this system in less than two weeks, making Workplace one of the most useful tools the company has. Vendors like ServiceNow and Microsoft (via Teams) are providing ways to help companies build their own apps. This is now a critical feature set for the entire market.

The Explosive Investment Community

Partly driven by the pandemic, investment in HR tech is at an all-time high. Many CEO studies⁴ now show that workforce development, alignment, and employee brand are among the top issues on the minds of CEOs. And the pandemic has made HR, remote work, and safe workplace considerations visible to every VC and private equity firm.

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 4,100 vendors listed, and I'm sure I've missed many.

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

COMPANY	OFFERINGS
Google	Google Hire, Google for Jobs
Microsoft	LinkedIn, Glint, Dynamics for HR, Workplace Analytics, Learning app in Teams, and Teams itself
Facebook	Workplace by Facebook, new VR offerings, live video for collaboration
Salesforce	My Trailhead, Work.com back-to-work tools, maybe Slack
IBM	IBM Talent Platform, Watson AI services, IBM Intelligent workflows and services
ServiceNow	Enormous focus on employee workflows, safe workplace, and additional products for HR

⁴ Conference Board CEO Confidence Survey, 2019

Major M&A in 2020

This year, as every year, there were a lot of big deals. Let me summarize them here.

Talent Acquisition

- JobPal (chatbot) was acquired by SmartRecruiters
- Cheksters (automated reference check) was acquired by OutMatch
- IGB (job posting) was acquired by Vonq
- EasyRecrue (video interview) was acquired by iCims
- Hired (talent marketplace) was acquired by Vetterly
- AllyO (chatbot) was acquired by HireVue
- TextKernel (AI) was acquired by Main Capital Partners
- FurstPerson (assessment) was acquired by OutMatch
- MyAlly (AI) was acquired by PhenomPeople
- Talentegy (analytics) was acquired by JobVite
- Launchpad (automation) was acquired by OutMatch
- ZapInfo was acquired by Indeed
- Sonru (video interview) was acquired by ModernHire
- Predictive Partner (analytics) was acquired by JobVite
- Smashfly was acquired by Symphony Talent
- Finalist was acquired by Uncubed
- Opening.io was acquired by iCims
- RoiKoi was acquired by Terminal

HRMS

- Kronos and Ultimate merged into UKG
- Samepage (collaboration) was acquired by Paylocity
- 7Geese (Performance/OKR) was acquired by Paycor
- Breathe (SMB) was acquired by Elmo
- Tricor was acquired by Payday
- Excelity was acquired by Ceridian

- GlobalPayroll was acquired by SDWorx
- TimeRack was acquired by TimeCentric
- CoreHR was acquired by Access
- NurseGrid was acquired by HealthStream

L&D and Talent Management

- Saba was acquired by Cornerstone
- Skillsoft was acquired by Churchill Capital and is going public
- Hyphen was acquired by Betterworks
- Clustree was acquired by Cornerstone
- Actimo (surveys) was acquired by Kahoot!
- VidGrid was acquired by Paylocity

Analytics and Wellbeing

- Werk was acquired by The Mom Project
- Neyber was acquired by Salary Finance

Other Notable Changes

- Degreed has now raised nearly \$200M, one of the largest investments in L&D companies, and continues to grow. The company acquired Adepto this year to get into the talent marketplace segment. EdCast and other learning companies continue to gain investment.
- Payscale received significant new investment and is now one of the leaders in compensation management, with a valuation of over \$500M.
- New vendors like Lattice, 15Five, CultureAmp, Quantum Workplace, and BetterWorks are all growing and attracting investment.
- Thanks to new investment, there are now more than ten talent marketplace vendors, including Gloat, Fuel50, Hitch, Eightfold, Avature, Pymetrics, 360Talents, Tandemploy, Oracle, Workday, Degreed, EdCast, and emerging offerings from SAP and others.

Continued Confusion for Buyers

According to Sierra-Cedar, the market for HR tech grew by an astounding 8% last year⁵. Companies are throwing money at HR tools right now, searching for ways to transform their workforces, make people more productive, and improve quality of hire, skills development, and employee engagement and retention.

But this is starting to create chaos. As companies move to the new generation of tools, the number of systems they buy is going up. 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 markets in detail, let me review the people challenges companies face today since these are ultimately the drivers for HR tech. While HR has always had the responsibility for staffing, payroll, employee relations, and general employee development, a new set of talent issues has now 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?
- **Workplace safety:** How do we help people come to work safely, avoid infection, and travel to and from work locations in an ever more safe and protected way?
- **External Brand:** Are we making sure our external brand is attractive, authentic, and relevant to job candidates and our existing employees? How do we monitor all the websites where people can rate our company?
- **Teams:** Are we building 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 a purposeful, meaningful career in our company? How can we improve internal mobility, regardless of 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 regardless of who we are as an employer? 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:** Are we doing our job to support the C-suite as business models change and address the big people issues companies face? Are we prepared to grapple with the business changes driven by automation and AI?

⁵ Sierra-Cedar 2019-2020 HR Systems Survey

These are some of the big issues I talk about with HR and leadership teams. They are consistent around the world, they are hard to address, 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.

HR TECHNOLOGY AREA	AREAS OF AI
Core HR	Recommended salary adjustments, job changes, career moves, span of control, compliance trends
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	Identifying and reducing 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 teammates
Career and Mobility	Recommended gigs, new roles, new developmental assignments
Organizational Design	ONA (organizational network analysis) to identify 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 chatbots with ever-increasing intelligence to answer questions, assist with employee journeys, remove need for HR administrators and robotic process automation to automate most routine transaction processing

AI Is Now Here

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:

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

- First, action platforms are 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 on our phones today.
- Second, we will see increased use of voice. More and more HR tools will be accessible through voice recognition. Just as mobile was a disruptive new user interface model a decade ago, so will voice 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 the integration of HR practices 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. HR teams are 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 study⁶ by the major U.K. 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. (You can [read more on the issues of trust and ethics in AI here.](https://www.bbc.co.uk/news/business-45214424))

⁶ <https://www.bbc.co.uk/news/business-45214424>



Figure 6: Framework for Ethics and Trust in 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 Cloud? Private Cloud? Hybrid 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 must be thinking about how it will integrate with your financial system, time and attendance system, badging, and other applications. As the IT world moves to the cloud, a new level of complexity is being 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. Salesforce has its own cloud, as does Workday. When your IT department wants to integrate data or develop a security agreement with such vendors, you will be dealing with multiple 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.

Another emerging trend is edge computing. This simply means moving data and processing 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.

Getting A Sound Return from HR Tech Investments

Finally, I want to discuss the enormous spending taking place in this space. I frequently talk with leaders whose companies are spend \$20 million or more on a 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; you are essentially taking money spent on your own internal staff and outsourcing it to a software vendor. These software companies, in turn, either try to build their own massive data centers or outsource the effort to Amazon or Microsoft. These intermediary players (the web services provider, the software vendors, the consultant) each have high margins, so you're paying a lot.

How much does HR tech cost? According to the latest Sierra-Cedar report, the average large company now has 11 core HR systems. I believe this actually understates the reality. Companies have five or more systems for recruiting, often ten different platforms for learning, and a variety of platforms for communications, reporting, compensation, and payroll. The overall spending on HR technology is several thousands of dollars per employee per year (often more than is spent on training and enablement). Yet, you have to make sure you get a positive return on these investments.

In 2019, we consulted on a major research study that looked at the ROI on large-scale HCM investments, and the results were very mixed. These are high-risk projects, so make sure you select vendors and products carefully and keep the number of tools to a minimum.

Our research showed that the most important factors in implementation and adoption success are as follows:

1. Clarifying the problems you want to solve before you go out and buy a new platform. This strategy will prioritize your configuration investments and make sure you don't try to boil the ocean.
2. Focusing on employee experience first, and process harmonization second. You should define employee personas, understand your service delivery model (who will do what once the system goes live), and make sure your HR business partners are intimately involved in the technology strategy.
3. Partnering closely with IT and senior business leaders, so the HR platforms are seen as strategic business solutions, not just cool things HR wants to buy. And of course, IT needs to fit the HR tech into all the existing infrastructure in the company.
4. Creating a senior governance team which owns the design, implementation, and success of the system. Make sure members of this team stay involved and do not change roles during the project. There are hundreds of decisions to make during an HR tech implementation, and you need people committed to success from beginning to end.

The HR Tech Market Examined

1. Core HR Platforms Grow and Expand

The most important and essential part of the HR technology landscape is the market for core HR platforms, including cloud-based HRMS, payroll, and core employee management systems. This market, which is 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, and others).

This market continues to grow as companies replace legacy HR tools year by year. Here are some examples. Oracle HCM Cloud grew at 24%; Workday's revenues grew at over 20%; SAP SuccessFactors grew at over 14%; ADP's revenues grew 3.4% on a base of \$14.6 billion (more dependent on small businesses impacted by COVID); Ceridian grew 9% on annual revenues around \$960 million; ServiceNow grew 31% on a base of over \$1B per quarter and HiBob, one of the darlings of smaller HCM players grew at around 40%. So a lot of these vendors are growing.

Every company needs one of these platforms, and now that most are available in the cloud, the vendors continue to expand their offerings.

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 became useful for employees, with user interfaces that let us employ self-service to manage benefits, employee information, and various employee options.

Vendors in this space are trying to transform their systems into management and workforce tools that help employees get their work done. And with the advent of talent marketplace tools, more and more of them support project-based work and agile work management.

Let me give you one example. One of the more innovative HCM platforms is Bob, developed by a fast-growing company called HiBob. Bob (the name of the system) is designed as a management platform first and HR platform second. Its entire design is focused on what information managers, employees, and executives need. And clients who use the solution personalize it, calling it by its name.

The company is growing rapidly (1,000-plus customers), and it represents a new approach to core HR, one which I believe every major vendor will have to address. Bob is a management tool, not an HR tool.

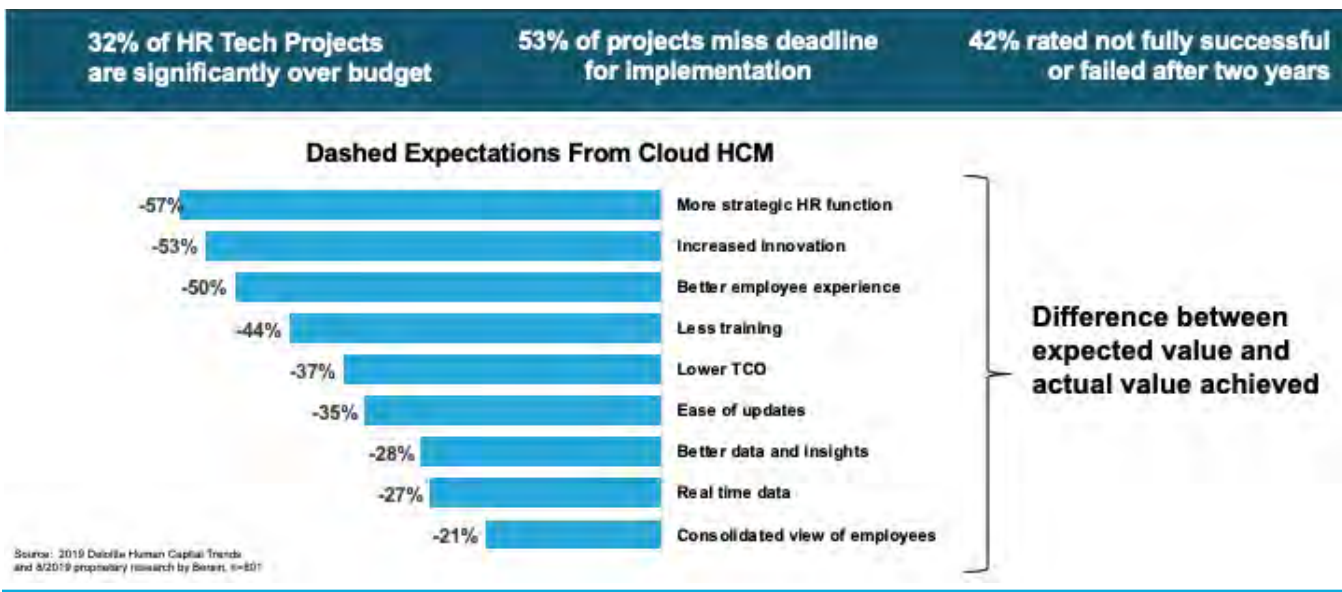


Figure 7: Framework for Ethics and Trust in AI

Important to consider: For the money you may spend replacing your core HR system with a new cloud platform, will it 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? Selecting a core system is not a simple decision, so you need to think about these issues.

General Trends Among Core HR Vendors

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

Paychex, which is now the the number two payroll vendor in the United States, has built out an entire talent suite that covers every aspect of talent management, including employee communications, recruitment, learning, and reporting. A few

years ago, Paychex was a young payroll-only company. It, like others, has expanded into the entire talent experience. As far as the bigger vendors go, the trends are similar among them all.

- Oracle is 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 wellbeing 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, Skills Cloud, and Talent Marketplace, and a major new user interface called the Workday People Experience. Despite all this effort, many leaders now tell me they mostly use Workday for core HR, so the company opened up its platform to become an ecosystem provider.
- SuccessFactors, the combination of SAP, SuccessFactors, Plateau, and other technologies, is focused on integration

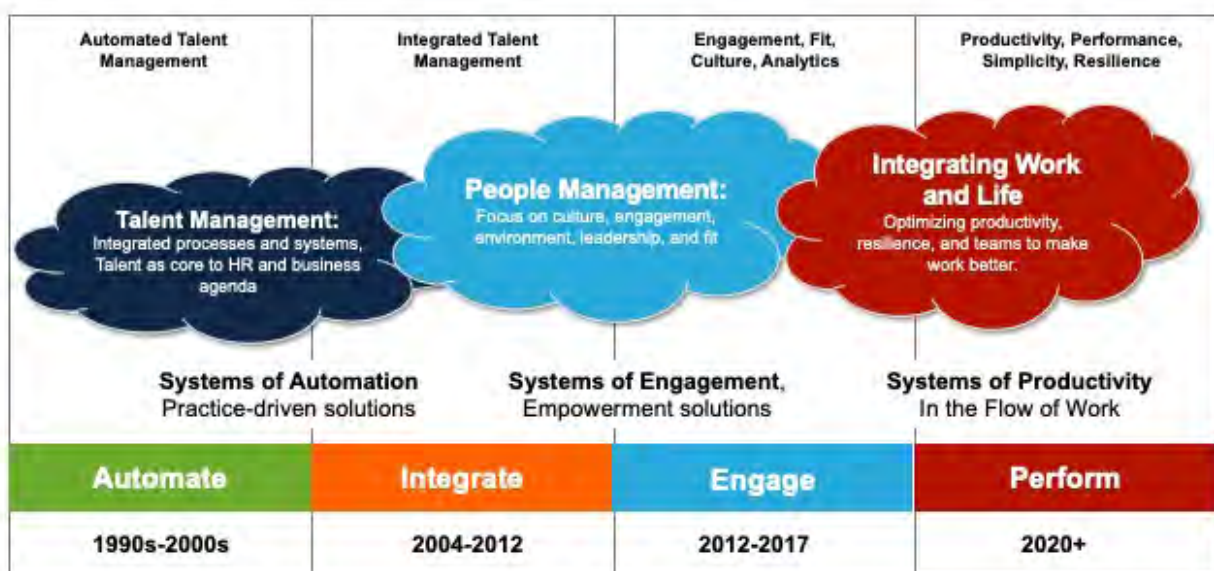


Figure 8: New Focus: Improving Work Experience

and ease of use among its highly functional talent software. The company has launched its HXM user experience and is introducing a massive new platform for employee learning, talent marketplace, and skills.

- Ceridian and UKG (Ultimate-Kronos), both larger mid-market providers, have done a fantastic job of integrating a wide range of talent applications and 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 has paid off, although they face many competitors in their markets.
- Infor, a company built around the acquisition of Geac, SSA, Certpoint, and ultimately Lawson, has now built a very well-integrated set of industry-focused HCM applications which have some 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, HiBob, Paycor, Paycom, Paychex, Zenefits 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 the 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 growing and replacing simple payroll systems with tools every company needs.

SuccessFactors HXM – Moving Fast

The company that pioneered cloud-based HCM software was actually SuccessFactors (before it was acquired by SAP). This company set the pace for performance management, talent management, and later learning (with the acquisition of Plateau) well before Workday become a big company.

Now well integrated into SAP, SuccessFactors is starting a new life. For many years, customers found SuccessFactors to be a high-functioning but somewhat un-integrated product with lots of different user interfaces and employee experiences across this huge set of applications. SAP heard this loud and clear, and this year SuccessFactors Human Experience Management (HXM) has really pushed ahead.

HXM is a new integrated system, with a chat and mobile user interface, deep integration with Qualtrics and its intelligent workflows, and a big focus on integrating into the rest of SAP's product line through what's called Intelligent Enterprise.

SAP has pioneered things like diversity dashboards, feedback, agile performance management, and enterprise learning management for years. Now the company has built an entirely new user experience and is integrating it into SAP's new people model on the back end.

To capture the next wave of innovation, SuccessFactors is now promoting a whole self interface, which focuses on culture, behavior change, engagement, and career. Part of this new strategy is a total revamp of the SAP enterprise learning products into a suite of offerings called SAP for the Intelligent Enterprise.

We have been talking with SAP about this for many months and the company is bringing together all the learning products in the company (including EnableNow, Litmos, the SuccessFactors LMS, a new LXP (powered by SAP WorkZone), and a big focus on a new learning intelligence data engine. The architecture is based on moving to an opportunity marketplace (also called a talent marketplace) and is building a capabilities

model (we actually helped them think this through) to support training, mentoring, self-development, and credentials.

SAP's vision is the most expansive of any large vendor. While Workday Learning has become a competitive offering, the SAP vision includes integration with VR solutions, gamified learning, digital adoption tools, internal and external content, and the enormous SAP learning base. More details on this will be coming in 2021, but I believe SAP's vision is right on. SAP thinks about it as a learning intelligence platform, which is much broader than an LMS and LXP.

Workday: Making Huge Leaps Forward

2021 will also be a very big year for Workday. This year the company is going to introduce major updates to Workday Learning, a set of new features for the Workday People Experience, and the launch and introduction of Workday Talent Marketplace, Skills Cloud, VIBE (DEI and Intersectionality), and Career Hub. Together these products make up a highly competitive end-to-end next-generation talent platform, and I think Workday customers will start to replace third-party applications in these areas. Vendors like Fuel50, Gloat, Hitch, and other talent marketplaces will feel the pinch.

As the company expanded into financial planning and other non-HCM areas, Workday's HCM functionality was lagging. The company's vision has been fantastic, but customers waited for the products to mature so they've gone out and bought or upgraded their LMSs, acquired talent marketplace solutions, and looked at vendors like Eightfold or Avature for recruiting. In 2021, I think Workday is going to win some of this back.

And Workday's concept of a totally integrated talent suite is now visible. Rather than think of each functional area of Workday as a module or application, the whole thing now fits together. Think about an employee who changes jobs or gets promoted and all the things that have to happen to make such a change successful. The People Experience journeys, coupled with learning paths and recommendations from Skills Cloud, will all be integrated into this employee's experience. This is what companies have wanted for a few years, and I think

Workday will deliver in 2021. I also think Workday Learning will slowly start to compete directly in the LXP market.

ADP's Next-Gen Platform

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 continuing a disruptive innovation cycle, although it has been somewhat slowed by the pandemic.

Last year I wrote about Lifion, ADP's next-gen HCM platform (built on a graph database) that was built as a skunkworks project in New York City. Lifion is designed as a modern, plug and play, public cloud architected system. It has some advanced 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 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 ADP's Data Cloud, which includes a vast database of jobs, payroll, and candidates build from ADP's more than 800,000 customers. What Data Cloud does is let the ADP platform compare your human capital metrics against industry peers (by location and company size) and then make recommendations for change.

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 Viva: Teams, Glint, and LinkedIn

One of the most important new vendors in the HR tech space is Microsoft, which owns the Dynamics 365 product set of LinkedIn, Glint, Office 365, and Teams. This year Microsoft has been firing on all cylinders and the Microsoft 365 platform (which includes Teams, Office, Graph, Search, Workplace Analytics, and more) is becoming the most integrated, useful productivity suite in the market.

Never before have we had such integrated toolsets to enable the digital world of work. Consider the role of these core technologies:

- Microsoft offers the entire range of messaging, email, document management, indexing, meetings, and workplace analytics offerings in an integrated platform (including Teams, Skype, Yammer). I think Microsoft has the potential to become the experience layer for many HR organizations.
- Google has built a series of standalone products (Gmail, Voice, Meet, Drive, and others), which are branded Google Workspace. Individually they are inexpensive and functional, but they fall behind Microsoft in almost every way. Google has no integrated product management and tends to ignore or kill off products without warning.
- Workplace by Facebook can become a broad-based employee communication, messaging, video, and workflow management application – targeted primarily at front-office workers.
- Webex from Cisco offers a very mature platform for meetings and is adding calendaring, video presence, and much more advanced productivity features.
- Atlassian has amassed a wide range of communication, wiki, team management, and work management tools for software companies and is widely used by engineers.
- Recently acquired by Salesforce, Slack is an excellent messaging platform but seems to have no interest in the HR market.
- ServiceNow is becoming an industry standard for IT and HR service delivery (case management, workflow design, knowledge management) and is expanding into onboarding, learning, and other HR domains.
- Adobe, Citrix, and other IT productivity vendors are all getting interested in HR technology, so they're opening up their interfaces to work with dedicated HR tools.

I would make sure you think about your core HCM platform as something that can be used in the flow of work. Let me give you an example.

Last year I met with the CHRO of one of Coca-Cola's biggest bottlers in Europe, and we discussed its platforms for performance management. She told me her team 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? 90% of her employees' time is already spent in Salesforce, so why don't we let employees set goals, provide feedback, and do their review 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 this company had launched a new system to do these tasks, it likely would have failed. The project is an example of HR in the flow of work, and it's the way you should think about your investments.

Introducing Microsoft Viva

The biggest announcement in EX is the introduction of Microsoft Viva, which the company positions as an end-to-end employee experience platform. It will have a huge following, largely because of the massive marketshare of Microsoft Teams.

Teams has rocketed ahead of Slack. Most large companies now use it for collaboration, video conferencing, and document sharing. Microsoft sees the potential and has added extensive video features, translation, a new learning app, indexing, and a completely open API that lets almost any third-party application use Teams as a messaging platform, content delivery system, and now a learning application.

One of the more innovative companies using Teams is Genpact, one of the world's largest outsourcing providers. Genpact has built an entire communication and learning platform on Teams, designed to let employees immediately learn what they need to know for new roles. The system finds information you need and recommends content far better than any LXP I have ever seen.

Viva has four modules, each of which has the potential to disrupt, replace, or complement many existing offerings.

- Viva Connections, an out-of-the box employee portal, communications, and indexing system. Connections builds on SharePoint and the existing infrastructure in Microsoft

Microsoft Teams Powers Past Slack

Daily active users of Slack and Microsoft Teams worldwide*

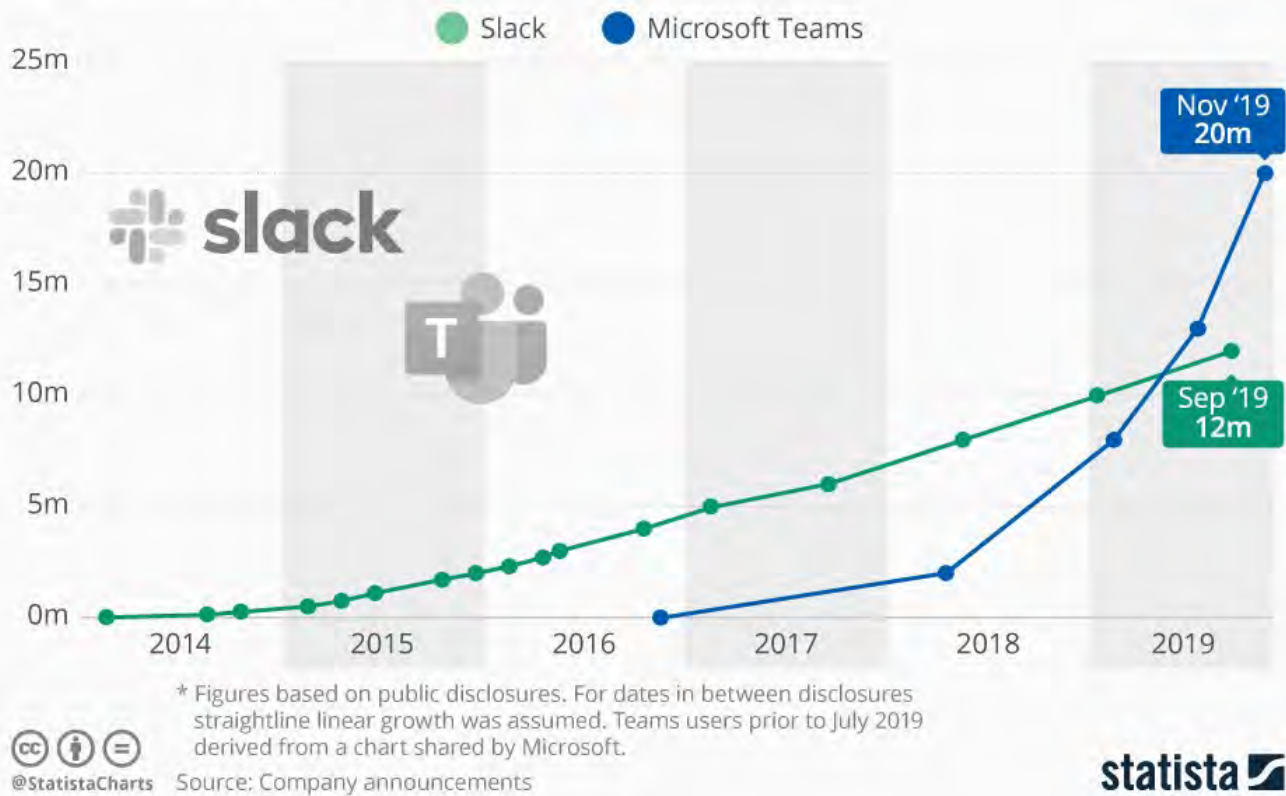


Figure 9: Teams vs. Slack

- 365 (Office) to create a mobile and web-based employee portal. This is an enormous market and radically simplifies the implementation of a single place to go for employees.
- Viva Learning, a true learning experience platform (LXP) that runs within Teams. Teams users can find, consume, track, and organize learning content, and Viva Learning can discover learning throughout your company. There will be connectors to existing content libraries (Skillsoft, LinkedIn Learning, and others) but Viva Learning also leverages an important technology called Microsoft Stream that lets you author, index, translate, and track video. It will definitely disrupt the LXP market.
- Viva Insights, the next-generation of Microsoft Workplace Analytics, which gives individuals and managers insights into productivity, scheduling, and wellbeing. Insights is a very powerful technology that is already in the market and will be expanded with third-party wellbeing and ONA products.
- Viva Topics, a new offering built on Microsoft Project Cortex that lets users automatically find experts and topics throughout their company. Topics indexes all the documents and communications in the Microsoft Graph, creating topic cards and pages. I believe Topics will complement Viva Learning to create one of the most powerful learning and knowledge management offerings in the market.

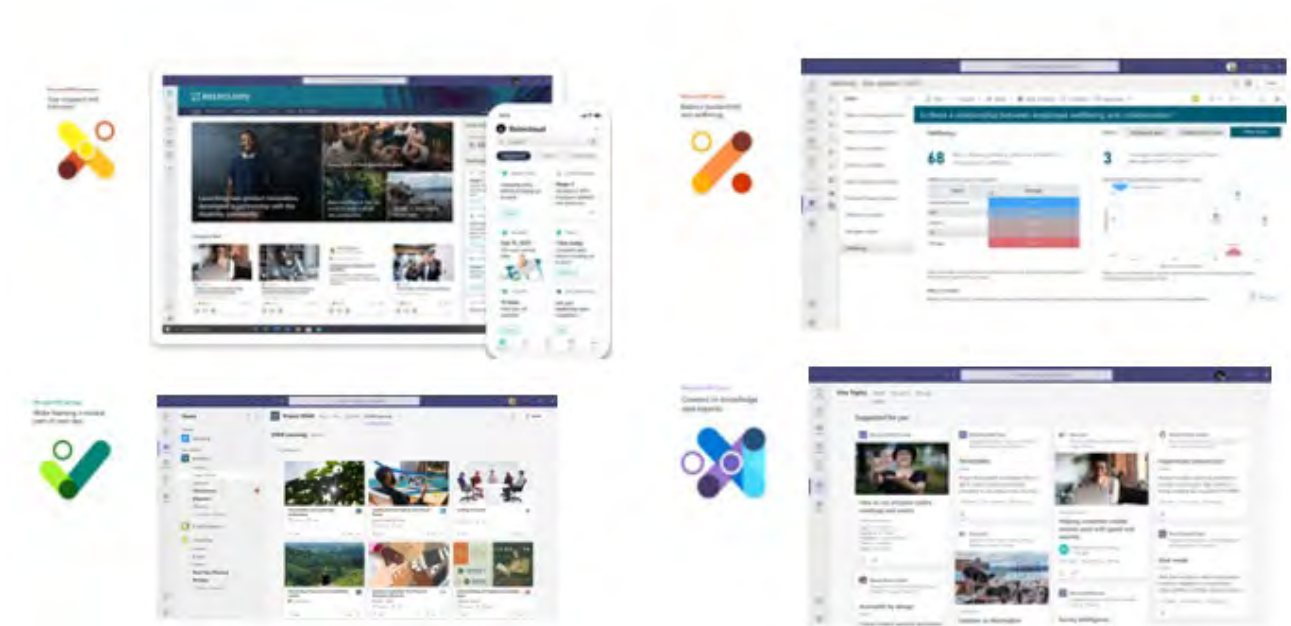


Figure 10: Microsoft Viva

Viva's Impact on The Market

Microsoft Viva is likely to reshape the HR tech market significantly over time. Most buyers will want to use Viva as a toolset to simplify the employee experience, creating an employee layer that simplifies access to all the tools we acquire.

As Figure 3 shows, the EX layer (shown in red) actually has sublayers, and Viva can really serve to bring these together. The apps layer will include the Viva applications and other offerings, and the services layer will include Microsoft Azure services as well as services from ServiceNow, Salesforce, and others.

It would not surprise me to see almost every HR vendor start to adopt the Microsoft architecture to plug into Teams and Viva, making Microsoft an integrating layer for all HR offerings.

Remember that Microsoft technology is quite extensive. Microsoft 365 (Office) includes Word, Excel, PowerPoint, as well as Teams, Stream, and much more. Azure is a direct competitor to Amazon Web Services, Google Cloud Services, and IBM Cloud and is the fastest growing web service offering. If your company is already using Microsoft tech (which is likely), Viva will immediately leverage all your IT infrastructure.

Most vendors, including Oracle, SAP, Workday, and even LXP vendors, are already making plans to adapt to Viva. They will likely build conversational plugins to Teams, integrate with the Viva apps, and publish their content into Viva Learning.

I would also encourage you to look at Microsoft Stream. Stream essentially replaces most proprietary video server offerings, which are often expensive. Stream not only lets you author, share, and distribute video for communications and learning, it stores all Teams meetings in an archive so every event and meeting can be shared and reused for training, change management, onboarding, and more.

I believe Microsoft is likely to build other applications on Viva as well – perhaps an onboarding system, compliance learning, and more. You can read more about this announcement in this article and my podcast: <https://joshbersin.com/2021/02/the-massive-market-impact-of-microsoft-viva/>

Facebook Is Coming on Strong Too

The second big disruptor in the HR tech space is Facebook. While I've not been a fan of Facebook in years past, my opinion has changed. The new offering Workplace by Facebook has turned into a very powerful and important platform for employees, front-line workers, and HR departments.

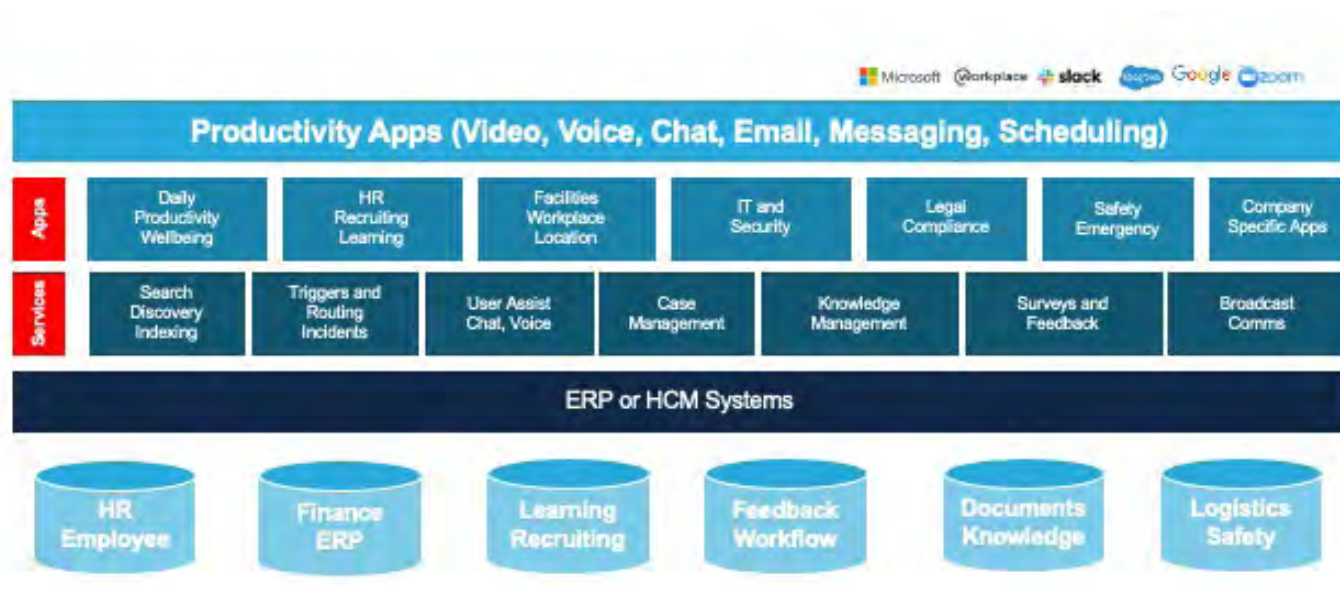


Figure 11: Service Layers in Employee Experience

Workplace is a highly scalable social communication platform, built on the paradigm of chat, chat groups, and video communications. Workplace is as easy to use as Facebook and its mobile app is perhaps the simplest in the market. As a result, large retail, consumer, hospitality, and other companies are starting to use it. And it's free to get started.

I interviewed a series of Workplace customers (including Farmers Insurance, Honest Burgers, Vodafone, and others), and they are thrilled with the system. Not only does it let employees communicate with their teams and each other, it is truly an application development platform for HR. You can easily build chatbots, integrate other apps (like Google Maps for example), and tie the platform to your core HR system.

Honest Burgers built an employee work scheduling application on Workplace in about two weeks that checks employee location, verifies employee roles and training, and then recommends shifts that can easily be reached without taking public transportation. Employees then sign up for their shifts in Workplace and the system schedules their time. The company sees Workplace as its end-to-end employee experience platform, regardless of the back-end payroll system.

Job Architectures: Modeling the Networked Organization

One of the big issues in HR technology is trying to model your company in software. Traditionally vendors created a hierarchical organization chart in which each individual had a job, level, job description, and position in the hierarchy.

While this still works in some companies, most real jobs are now much more complicated. People work on multiple projects, they are members of more than one team, and their official job has many diverse responsibilities. A hierarchical architecture itself is often limiting.

More than 40% of the HR professionals we surveyed this year told us they are using some form of agile work design, implying that a job does not fully describe what people do. In these organizations, work is often varied, so the system has to reflect many goals, relationships, responsibilities, and skills.

Traditionally this type of work model is hard to represent in software. While most HR platforms are built around relational database technology (rows, columns, tables, and joined tables), today the company looks more like a network. We need HR platforms that feel more like Facebook or LinkedIn and less like general ledgers or accounting systems.

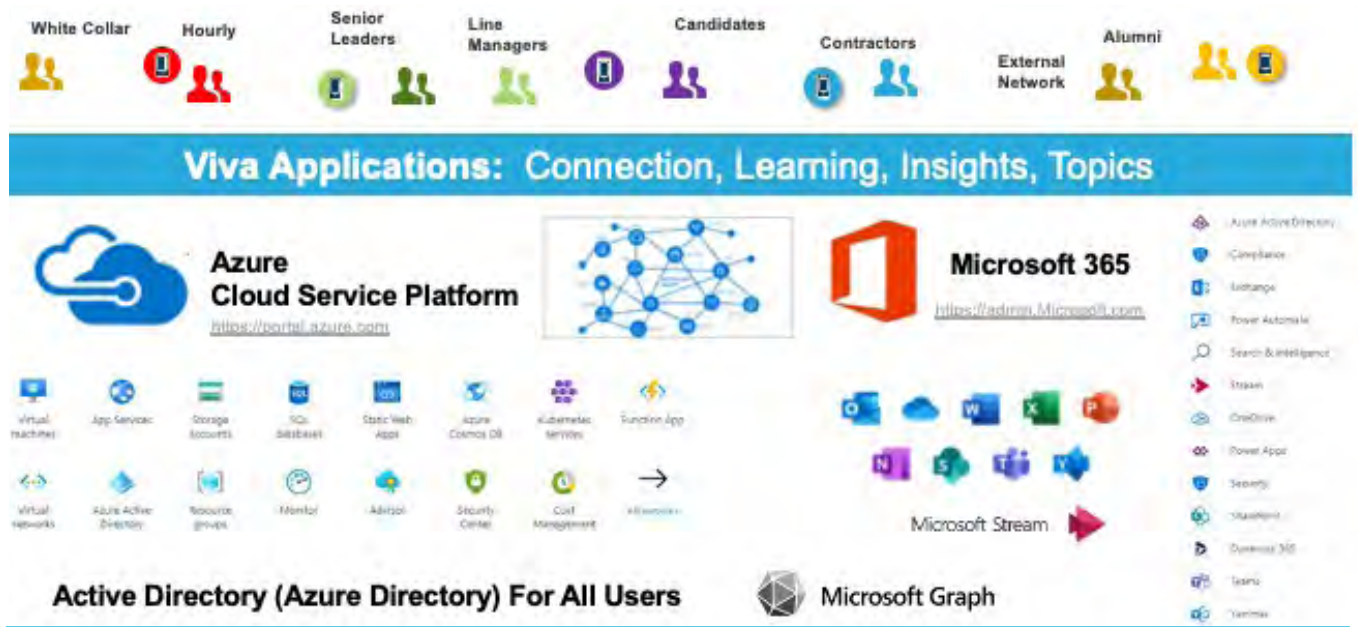


Figure 12: Microsoft Technology Architecture

For you as a buyer, this means you have to select tools that accurately model your company; it also means you should simplify your job architecture as soon as you can.

Job Architecture

First, let me discuss the job architecture. In today's businesses, people have jobs and job descriptions, but these don't typically reflect the work that is actually done. The old idea of a formal job goes back to industrial business models, where there was management and labor. Today even a nurse or call center agent is asked to do a wide variety of service-oriented tasks, so their jobs are really comprised of multiple roles, responsibilities, projects, and tasks. And these change all the time.

More and more of the focus today is on role and project, which leads to the need to look at someone's real business capabilities, not just their job title, level, or experience. Experience is vitally important, but so are technical skills, human skills, and relationships. In a sense, every individual in the company is no longer a node on the hierarchy. We are each nodes in a network, connected to many other people, projects, information, and history.

When you consider that people change roles fairly frequently (this year, 40% of Americans changed roles or jobs, for example), then it becomes more obvious that the traditional hierarchical job architecture is getting in the way.

Many HR organizations still have hierarchical job families with lots of detailed descriptions written into the job itself. This is a very brittle, time-wasting effort. When you want to hire someone, you need to write down what this job is, the tasks, expectations, and responsibilities. But once an employee is hired, this detail is no longer very useful. It's important to keep people aligned, but as most of you know, people make the job and not the other way around.

There is an entire discipline of job crafting, which describes how each person creates a job to fit their own skills. We need to embrace this notion and build around it. Hierarchical job architectures limit employee agency and empowerment, two of the biggest issues in business today.

Suffice it to say, nearly every company is becoming a talent marketplace, and this change in itself will force job architecture to change.

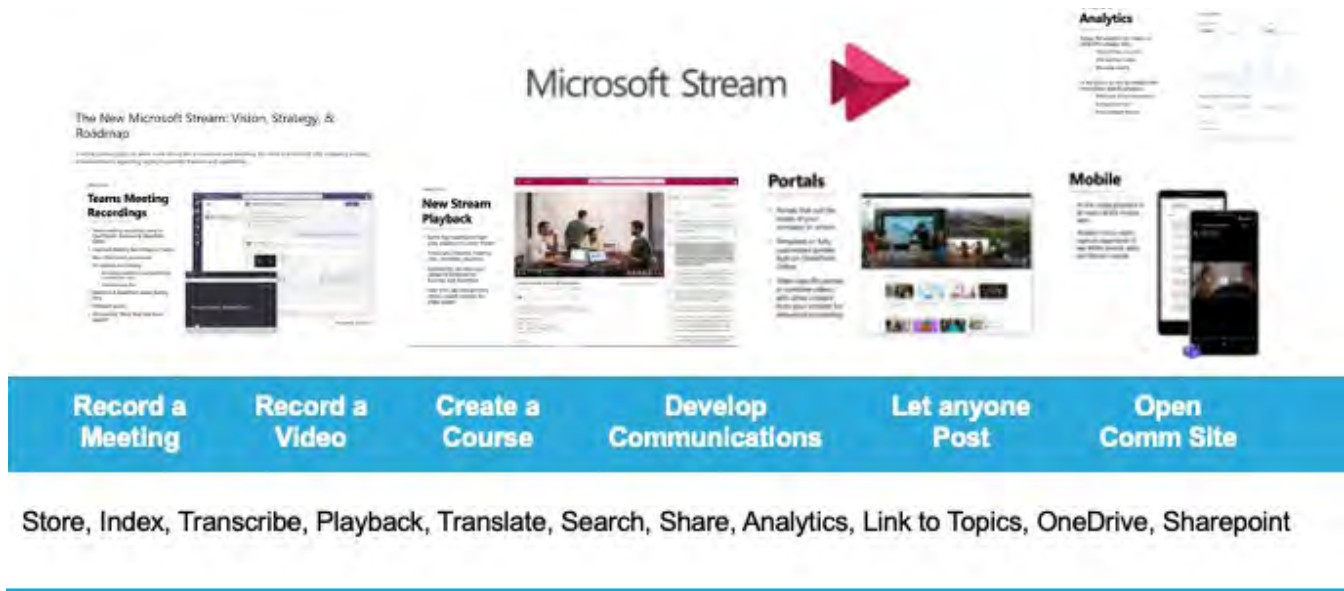


Figure 13: Microsoft Stream

The answer to this issue is to reduce the detail (competencies, tasks, role description) in the bottom layer of the job architecture and put more information at the higher layers of the tree. This lets people change jobs as needed. Some companies are even doing away with detailed job titles and using broader titles such as engineer or senior engineer rather than QA level 2 engineer. Companies are also dramatically reducing the number of job levels which can create inflexibility and massive political problems when people take new roles.

Database Architecture.

The HR tech part of this problem is creating a system that lets you create a job that can change easily over time. And that means creating a database that reflects relationships and roles, not just hierarchy.

One of the potential solutions for this is an exciting technology called graph databases. These are new products, pioneered by a company called Neo4J (there are others), which essentially store data so it can be represented in a network. They are vastly more powerful for modeling how people work in networks, how people search for data and objects, how people communicate and build different types of relationships (peers,

team-mates, bosses, subordinates). These products essentially store this information into a graph of the company, which can evolve over time.

In a graph database, relationships are defined and all objects are defined by their relationships. In Figure 14 (a social network), you can imagine the many ways we could use this at work.

The graph 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 employees and it is reaching the conclusion that the core ERP, while needed for payroll and recordkeeping, is far less useful than realized.

This is the technology behind ADP HCM, and Workday has some of these capabilities (but is now a 10-year-old architecture).

I am digging into this technology and will spend much more time with vendors in the coming quarters, but this type of technology, coupled with blockchain 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.

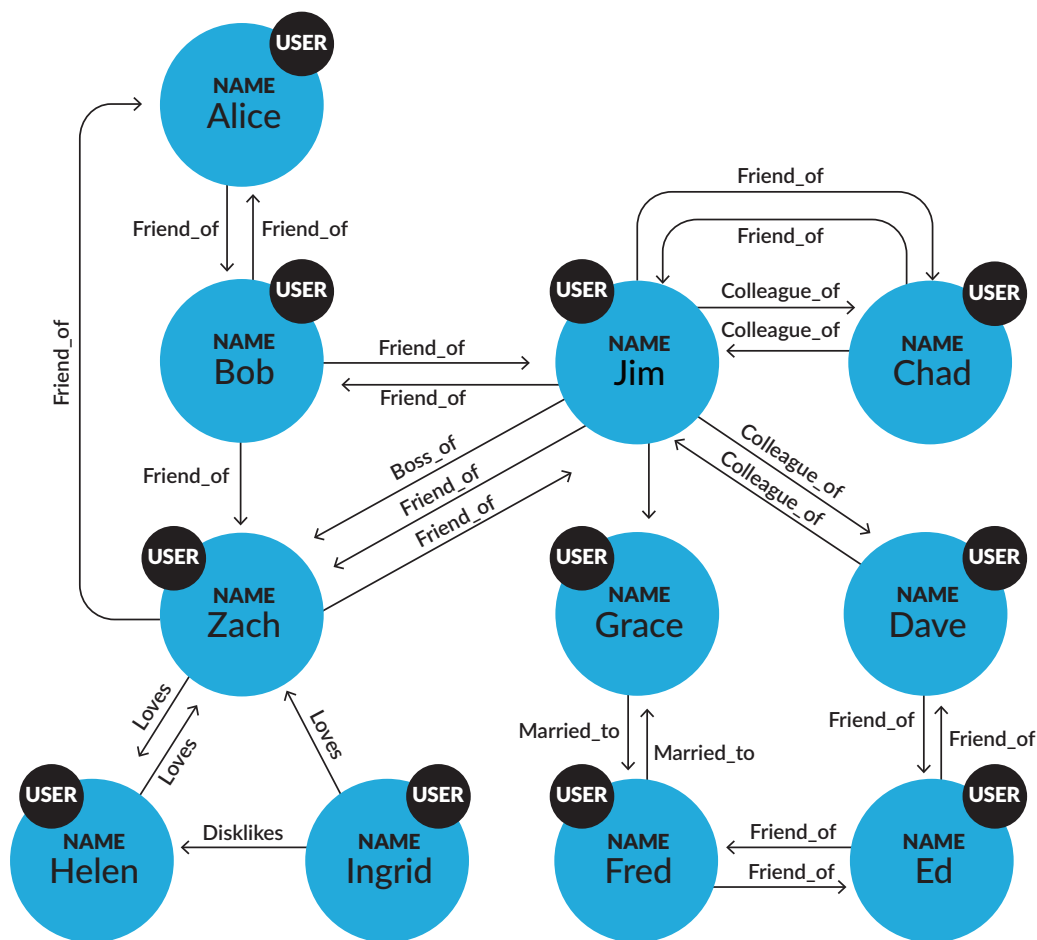


Figure 14: Object Oriented Database

2. Creating an Employee-Centric Architecture

For much of the last decade, we 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 recruitment, onboarding, goal setting, performance management, learning management, compensation management, as well as systems for benefits administration, engagement surveys, and more.

These tools were database-driven. They were designed to manage these end-to-end transactions, store data, and give you good tools for reporting. And the tools produced lots of forms, tabs, and workflows that modeled these end-to-end, linked processes.

Today, however, all this has been decomposed. Yes, we need to advertise, recruit, assess, and hire people. And then we need to onboard them, set their goals, and pay them. And then we need to give them training, careers, and growth opportunities. And they need to schedule their time, take a vacation, and do many other things.

	The 2000s	Today
Focus	Talent Management	Employee Experience
Goal	Integrated HR transactions	Improved employee productivity
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	Micro-Experiences (Interactions)

Figure 15: From Process to Experience

These processes, which vary widely from company to company, are not interlinked like they were before. Some are linked to others, but some are used in a standalone way. We need an HR architecture that makes it easy for employees (and managers and HR staff) to find each transaction or process they need without necessarily following that flow.

In other words, we need to move from process-based architectures to employee-based or experience-based architectures. One of our clients calls this a micro-services architecture, in which any task a person needs to do at work has its own app to get it done.

In the past, all these systems were hard-wired together by your IT department, often costing millions of dollars for security, authentication, and data integration. Today, using web services, these systems can be tied together much more easily, and in most cases, there is now a data lake under the covers. (See Figure 3.)

The vendors in the blue boxes are trying to build employee-centric systems, so you will have to decide which of these systems are employee-facing and which are back office. Learning management systems, for example, are now primarily

back-office systems, as are applicant tracking systems and payroll systems.

Why this shift? Because as we all know well, today we are all flooded with digital apps and we want systems that are so easy to use they require no training at all. In fact, I think the best example of an experience app that works is TikTok. It's fast, entertaining, and so easy to use you can immediately have fun with it. I challenge the HR tech community to create TikTok-like apps wherever possible.

Will you be able to get all the blue systems from your core HCM vendor? The market is moving in that direction, but we're definitely not there yet. Workday claims that more than 1,000 companies now use its recruitment software and more than 800 live on Workday Learning, and SAP has more than 2,000 companies using its LMS or other learning tools. But as most of you know, these blue application areas are so dynamic you will always be shopping around for something new. I suggest you just accept that you will have multiple systems, and you focus your design energy on the red layer.

In many ways, the red layer is where the new war in HR tech is being waged. Every vendor wants your employees' eyeballs



Figure 16: How HR Systems Are Evolving

because they want to be the workflow layer for employee experience.

While every vendor wants to build a great user experience, you as a buyer have to decide what your employee experience looks like. Some will use Workday People Experience; some will build around Microsoft Teams; some will use Workplace by Facebook; many will use ServiceNow. IBM makes a business out of building intelligent workflows for employees and HR professionals, and you should too.

I think this is still a very complex topic, and the pandemic has accelerated the issue. As I see the market, most vendors are splitting their applications into two layers. The first 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. And we need these systems to be highly adaptable (consider Avature or Eightfold, for example, which are essentially adaptable platforms).

On top of this layer are the systems of engagement. Last year I visited Reliance Gio in India. HR leaders showed me a custom mobile app filled with micro-experiences that any employee, manager, or candidate can use. These reminded me of TikTok – they are fast and easy to use, each does a few things well, and the user can rate and comment on any app. This lets the Reliance team continue to improve these apps over time.

This is where I think the market is going. Imagine an employee on Slack, Teams, or Workplace that needs help with a pay stub or vacation scheduling. Why would they try to log in

to Workday to perform these transactions? Why not send a message to HR in their productivity tool and let the back-end system respond? This is clearly where EX platforms are going and this threatens many incumbents.

The vendor well-positioned for this change is ServiceNow, which has done an amazing job of winning over IT and HR service centers for service delivery technology. This year, ServiceNow expanded into a wide variety of safe workplace apps, and the company continues to become an essential part of the HR technology stacks in many large companies.

We are also watching the growth of a new generation of talent systems that sit on top of the ERP.

This year, I interviewed leaders from Siemens, Cisco, Epic, Micron, and AmEx to talk about talent acquisition. What I found in every case is that the applicant tracking system (often Taleo but sometimes others) is just not flexible or adaptable enough for all the workflows these companies need. Epic, for example, hires all new employees into seven roles, and from there they go into in-depth onboarding by business unit. AmEx hires by country and region. And companies like Siemens do massive amount of internal mobility.

These workflow differences are very important, and in each case these companies use other tools like Pymetrics, Plum, HireVue, or ModernHire as add-on tools. There's no way a candidate, recruiter, or hiring manager can learn how to use all these things. So companies stitch them together with a user experience layer on top.



Figure 17: Talent Experience vs. Employee Experience

Vendors like Avature, Eightfold, or PhenomPeople were designed for this. They are essentially the experience platforms with customizable workflows for recruiting.

Similarly, in learning, a company may choose 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.

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

As one client puts 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, PeopleSpheres, and others want to be this single point of contact.

3. The Safe, Productive Workplace

The pandemic created one of the most exciting new market segments in HR tech – the safe workplace. Let me explain.

Prior to 2020, companies purchased employee productivity tools (Microsoft Office, Slack, Teams, Sharepoint), computers,

laptops, phones, and other IT equipment from IT vendors.

These systems and applications were used by employees to get their work done. In a parallel universe, HR technology vendors built systems for payroll, recruiting, development, surveys, and employee apps.

Not only have these two worlds merged, but now there is a new imperative: how do we keep people safe, productive, healthy, and resilient at work?

For example, at companies like S&P Global, L'Oreal, and many others, there are now end-to-end dashboards, accompanied by safe workplace apps, that let employees attest to their health each day, report illness at home or in themselves, schedule a car to pick them up for commute or travel, schedule a desk or work location (and enforce spacing guidelines), inform employees of virus outbreaks, perform contact tracing, and simultaneously survey and nudge employees about their mental health, wellbeing, exercise, and other needs. These apps even connect to badge readers and store employee locations, a history of whom each employee meets with, travel schedules, and time tracking to make the entire work experience safe and auditable.

Building safe workplace apps is now an enormous new market segment in HR. Today the vendors focused on this space include ServiceNow, Salesforce, Tata Consulting Services, Microsoft,

and hundreds of IT vendors. This market, which grew out of the pandemic, will become a standards market for the employee experience and is a massive opportunity for innovation.

S&P Global, with the help of Tata Consulting Services, developed a safe workplace system that connects the company's scheduling, badge reader, ServiceNow case management, and car and travel scheduling system. The company then built a safe workplace command center which helps IT, HR, and other managers track a wide variety of workplace issues from one central location.

This is a new market and will start to pull in every HR vendor in some way. The command center may look at health, engagement, travel, and then over time include measures for stress, retention, and almost every HR measure in the company. While people analytics teams have worked on these solutions for decades, in 2020 this became urgent and focused, opening up a flood of innovation and investment. Vendors focused on this segment include ServiceNow, TCS, and Salesforce.

4. Talent Management Reinvented: A Competitive Marketplace

Which brings me to the enormous, exciting market of talent applications. Historically, talent management referred to the old idea of "pre-hire to retire" workflow processing. This included:

- Sourcing, assessing, and recruiting
- Onboarding and goal management
- Ongoing performance management, check-ins, reviews
- Succession, career, and talent mobility
- Talent calibration, pay, rewards
- Learning, certification, and credentials
- Surveys, voice, listening, knowledge sharing
- Long term career planning and growth
- Leadership development, executive development
- Retirement, exit, and alumni management.

In the 1980s and 1990s, these were custom applications or built into PeopleSoft or other licensed systems. During the 2000s, most of these applications were replaced with web-based systems, often sold by smaller independent vendors. Then around 2005, the idea of integrated talent



Figure 18: New World of Talent Applications

management and talent management suites took hold, and vendors tried to put this all together.

Since then, however, the market has exploded with new applications for wellbeing, work sharing, gig work, contingent work management, agile team and goal management, and the emerging new world of safe workplace management. Today almost 35% of Americans work part-time or on a temporary or gig basis, leading to a massive need for a whole new marketplace of HR tools. Now it's quite common for companies to have a talent management suite but still buy lots of standalone tools.

And the lines keep blurring. Is an application that asks you to attest your health, schedule a desk, and monitor your location and whom you work with a wellbeing or safe workplace application? Is an app that's used for employee engagement and then delivers dashboards a people analytics system? A management development tool? Yes to all.

Figure 18 shows many of the new categories that have been created. I've tried to group application types by category, but of course, I can't possibly include them all. These new

talent applications 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. Figure 19 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 (where there is little or no HCM suite), but over time as the mid-market HCM suites evolve, they will all focus on innovation and next-generation features.

And the market is brutally competitive, so you're probably going to buy some of these apps, use them for a few years, and possibly swap them out later.

In each segment, the innovations are unique. As one can see, there's no way the large HCM vendors can possibly innovate in all these areas. There are many innovative companies building these systems and many have VC funding of \$10M or more.



Figure 19: Talent Management Market Is Crowded

RECRUITMENT	LEARNING & CAREER	PERFORMANCE MANAGEMENT	REWARDS & RECOGNITION	WELLBEING	WORK MANAGEMENT
AI-based sourcing, video and social assessment, advanced analytics, behavioral assessment, gig work management, contingent work management, and integration with talent marketplace	Learning experience platforms, micro-learning platforms, MOOCs and content libraries, VR and AR learning, career portals and career development, gig work management, and internal talent marketplace tools	Performance management tools, agile goal setting, team (OKR) management, ONA network analysis, AI-based development planning, integration with learning content, online coaching, and new action platforms	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	Safe workplace, desk and location scheduling, travel and commute management, team collaboration, messaging, document and video sharing, AI-based coaching, integrated learning and support

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.

Major Changes in Talent Vendor Landscape

Talent and performance management vendors are going through the most radical changes I've seen in a decade. I will discuss learning in a later chapter, but let me just mention a few topics:

- Oracle, SuccessFactors, and Workday now offer end-to-end talent management platforms with excellent recruiting, performance management, succession, learning, and compensation features. Companies that standardize on these tools often shop for add-on systems for more innovative functionality.
- Cornerstone, the largest LMS and standalone talent vendor, acquired Saba and is introducing a new architecture with skills-based recommendations for content, jobs, and learning plans. The company now offers two completely different learning platforms.
- Learning Technology Group acquired PeopleFluent and now offers end-to-end recruiting, talent mobility, talent management, video, management, LXP, and LRS from one vendor.
- Medallia and Qualtrics can automatically look at survey data and trigger alerts, messages, and cases that go to appropriate service centers or managers in a model I call

“continuous response.” Read more at <https://joshbersin.com/2020/11/employee-experience-4-0-closing-the-loop-from-signal-to-action/>

- Glint expanded into end-to-end performance management and is now tightly coupled with LinkedIn Learning, creating a real talent management platform designed to scale.
- Pymetrics has expanded its AI-based assessment offering to include a talent marketplace, so companies can assess candidates for capabilities and then offer these candidates to other companies if they are not a perfect fit. Pymetrics continues to be one of the leaders in game-based assessment for white-collar, service, and professional roles.
- ModernHire has become the leader in interview, pre-hire assessment, and data-driven selection with the integration of Montage and Sonru.
- Perceptyx can create custom surveys that look like your website, analyze data in real-time, and produce statistically validated recommendations automatically.
- Waggl can now crowd source engagement and feedback surveys, almost instantly telling you what people are thinking. CultureAmp and Peakon can identify coaching needs and deliver developmental conversations or journeys.
- BetterWorks, the pioneer of OKR-based performance management, now offers surveys, succession management, a new UI, and more advanced performance

management features. The company acquired Hyphen to add employee surveys and feedback to its suite.

- BetterUp, an AI-based coaching network, can algorithmically recommend you to a coach or coaching circle, connect you to the coach, and deliver a coaching session online and has become a global leader in AI-based coaching, branding itself as offering “precision learning at scale.”
- Edcast, a leading LXP provider, has expanded its LMS capabilities and introduce a talent marketplace offering, competing directly with Degreed for leadership in this space.
- Degreed acquired Adepto and can now offer projects and job opportunities in its learning experience platform, becoming a talent management system.
- CultureAmp, a pioneer in employee surveys and feedback, introduced Amplify, its conversational microlearning platform that helps managers develop themselves, complementing the company’s performance management system.
- Lattice, a fast-growing performance management vendor, introduce Grow, its career planning application, and continues to grow in the mid-market.
- Bridge has totally spun off from Instructure (it was recently acquired by Learning Technologies Group) and now offers one of the most elegant end-to-end talent and learning platforms I’ve seen for mid-sized companies.
- Mya can talk with candidates to screen and assess them automatically.
- Orderboard.ai and Entelo can find candidates based on their social profiles and external experiences.

On the larger vendor front, there have been a lot of changes this year.

- Cornerstone and Saba’s merger is complete, and the new leadership team is building an integrated product plan that includes an LXP and new career management system, coupled to a new skills engine.

- Peoplefluent (now owned by LTG in UK), through its acquisition of Patheer, now offers an end-to-end talent platform including a world-class LMS (formerly NetDimensions) and LXP (Instilled) and a totally revamped recruiting system.
- Oracle’s Cloud HCM offering is now competitive with Workday and SuccessFactors and is a viable end-to-end talent platform for larger companies.
- SuccessFactors HXM, a bold idea for a new user experience in HR, is starting to pick up speed and looks like a big winner in the market.
- Workday continues to dominate the cloud HCM market and is launching its Talent Marketplace, Skills Cloud, and massive upgrades to Learning, Recruiting, Adaptive Planning, and Financials.

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, 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 we need an HR-IT team to scan the landscape, evaluate vendors, and develop a long-term architecture. The Sierra-Cedar 2020 study found a 52% increase in this role (from 26% of companies to 41% today), so I urge you to have focus on this role. I have been asked for help in this area almost a dozen times in the last 60 days, and external consultants cannot possibly do this as well as you can yourself. This may be a single person or two; often, there is an HR tech architect and also an L&D architect.

One of the companies that has done this exceedingly well, by the way, is Deutsch Telecom. I’ve met with the head of its architecture team many times and he 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.

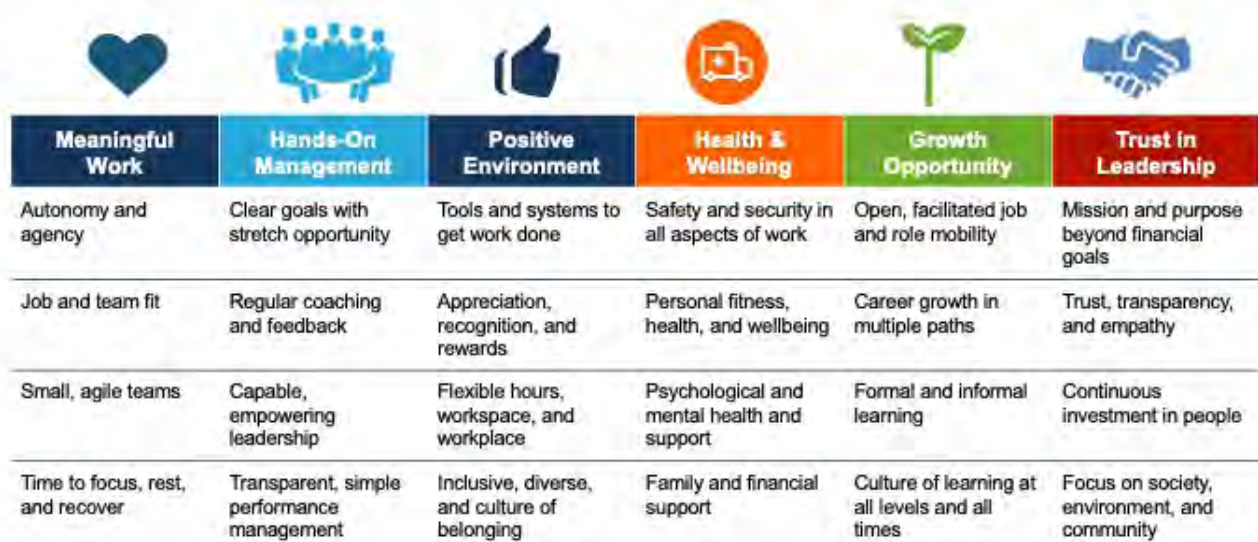


Figure 20: The Irresistible Organization Model

Another company to emulate is Unilever, which has built an entire flex system that covers all aspects of employee mobility, career, learning, and integrated workforce planning.

These companies have a senior leader responsible for the HR technology roadmap, and I recommend you do the same.

5. Reinvented Employee Experience

As the pandemic grew, more and more companies realized that the survival and growth of their company was totally dependent on the health, wellbeing, and productivity of their people. The concept of employee experience has taken on new importance.

And this pace has accelerated. In a period of change, fear, and uncertainty, smart companies think about employees first, since they are the ones who help the company, product, and services transform.

The term employee experience began to appear around 2014, when it was used to create a focus on applying design thinking to HR. In those early days, we started to look at moments that matter at work and assess how we could redesign them to be easier. Typical moments included onboarding, a promotion, a job change, or a move into management.

Now, driven by the pandemic, the scope of employee experience has expanded. We now see EX as a company-wide

initiative to create wellbeing, productivity, engagement, and growth.

Figure 20 shows a framework to consider, a model we call the “Irresistible Organization.” This graphic identifies 24 factors that we’ve researched in depth. Each is directly correlated to performance, engagement, productivity, and retention.

As you can see, EX thinking now expands *well beyond HR*. We now have to consider the workplace, the employee’s commute and travel experience, the experience at home (office, family, technology), and the employee’s mental, physical, emotional, and financial health.

All these new issues are pushing EX leaders to think about the whole employee, similar to the way consumer product companies think about customers. Who is this person who works for us? How do they get to work, do their work, and thrive in their work? What are the journeys, tools, information sources, and capabilities they need? And how can we both design a great experience and also create feedback and instrumentation so we always know what’s not working and what should be done to help?

This is the new world of EX, and it is consuming the HR tech market in a big way.



Figure 21: HR in the Flow of Work

Shifting from Transactions to Design to Response-Focused

Last year I talked a lot about shifting from transactions to experiences and a focus on design thinking, user empathy, and user segmentation. This new way of thinking has shifted 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 must apply 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 IT people), case management, knowledge management, and intelligent AI-based chat.

Consider the experiences in Figure 21. Employees go through these moments, comprised of complex workflows, at various points in their career. Today we implement these moments or experiences in standalone systems.

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. The new generation of experience platforms is really disrupting the market.

The vendors focused on this area are growing explosively. These include ServiceNow, PeopleDocs (now owned by Ultimate Software), PeopleSpheres, SaplingHR, Deloitte, HonoHR, and all the HCM Platforms. Microsoft Teams is moving in this direction, and so is Workplace by Facebook. I would not be surprised to see Webex and Salesforce try to build tools in this area also. (Salesforce case management is used in many HR service centers.)

These new systems include integrated case management, document management, process management, chatbots, surveys, 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.

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

I've talked with almost a dozen CHROs who spent many millions of dollars on replacement core HCM systems only to find out that they were lacking in providing positive employee experiences, thereby requiring an additional layer of software on top. These new employee experience platforms are not only good HR self-service systems, they also include chatbot interfaces and deep integrations to the HCM, ERP, learning, and recruitment systems. They also have development tools, 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 that fit into this interstitial space. Consider GuideSpark, which has built one of the most integrated systems for employee communications; Poppulo which also offers an end-to-end communications platform; 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 benefits, mentioned earlier.

How To Design EX Solutions

In addition to looking at tools, there's a much bigger issue to address. How, as an organization, are you going to pull this together? We have been involved in dozens of projects helping companies do this so let me summarize what we've learned.

1. Make sure you have a multi-functional team. EX is not an HR issue – it crosses between HR, IT, facilities, safety, and even legal and finance. Cross-functional EX teams do amazing things. HR-only teams can only touch HR-related experiences.
2. You have to organize the transactions or experiences you want to focus on. They may be extensive – from family leave to onboarding to job change, relocation, and

many more. You can't boil the ocean so you need a set of employee experiences to focus on. There will be many, so you have to list them out and think about them holistically.

For example, one company looked at onboarding and realized that the process actually starts when a candidate accepts a job. From that moment forward, the candidate gets company information, fills out forms, orders a PC, sets up their new assignment, meets their peers, and learns how the facilities operate – all before they show up for work. Then there are issues of assigning work, meeting the direct team, getting to know the organization, and so on. So clearly this experience is complex, and it touches HR, IT, line management, L&D, legal, and finance.

3. You should assign an offering manager to explore the dimensions of this topic. What are all the use cases, workforce policies and groups, and different populations who use this experience? So how can you design it so it meets the need of most people easily? One offering manager should own this experience, understand all the customer needs, and manage it like a product with an initial release, periodic new features, and constant feedback on what's working and what's not.
4. Look at your existing systems. What existing systems do you have that must be updated, used, or configured for this experience? If you're lucky, you have this functionality in place; but in most cases, there are multiple systems involved and you have to think about security, workflow, and data integration.
5. You must assign service delivery to each part of the experience. At each step, who is an employee to call if something goes wrong? Is it IT? Facilities? Local business partners? The global delivery center? What training do people need to provide appropriate services?

6. Think about self service. How can you make the experience self-service in the best possible way. Chatbot? Portal? Mobile app? Can you possibly make the experience entirely consumerized so it is completely self-sufficient?
7. Finally, think through systems of productivity. How can you integrate these experiences into Teams, Salesforce, Outlook or other systems of productivity? Can you make this an app in your general HR portal or email system? It's important to try to avoid sending people to new systems to get things done.

Once you go through this exercise a few times, you'll see that this is an ongoing initiative. In many companies, the EX strategy belongs in the shared service or business services group. But wherever this function resides, you need to design, iterate, and continually improve over time.

Employee Experiences and Safe Workplaces

The pandemic adds a new element to employee experience. How do we manage these experiences in a world of social distancing, attestation, and health?

Many companies are now integrating EX teams with facilities and safety teams to build safe workplace strategies encompassing workplace scheduling, attestation and

temperature testing, PPE inventory, case logging, contact tracing, and a myriad of new business processes including commute management, travel management, and escalation processes.

AI Continues to Grow

Remember that AI continues to get smarter. My phone or iPad are now pretty good at figuring out what I want to do. Your employees probably want to chat, talk, or simply send messages to get help – not necessarily fill in a form or pick up the phone.

IBM's global HR organization, for example, has configured Watson to be the front end for managers. The company claims the Watson-based interface generates over 95% employee satisfaction for a wide range of employee needs. The HR team has people monitoring employee queries and building cross-domain experiences as a regular part of the 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 leaders of 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. Mya has automated almost all the interactions

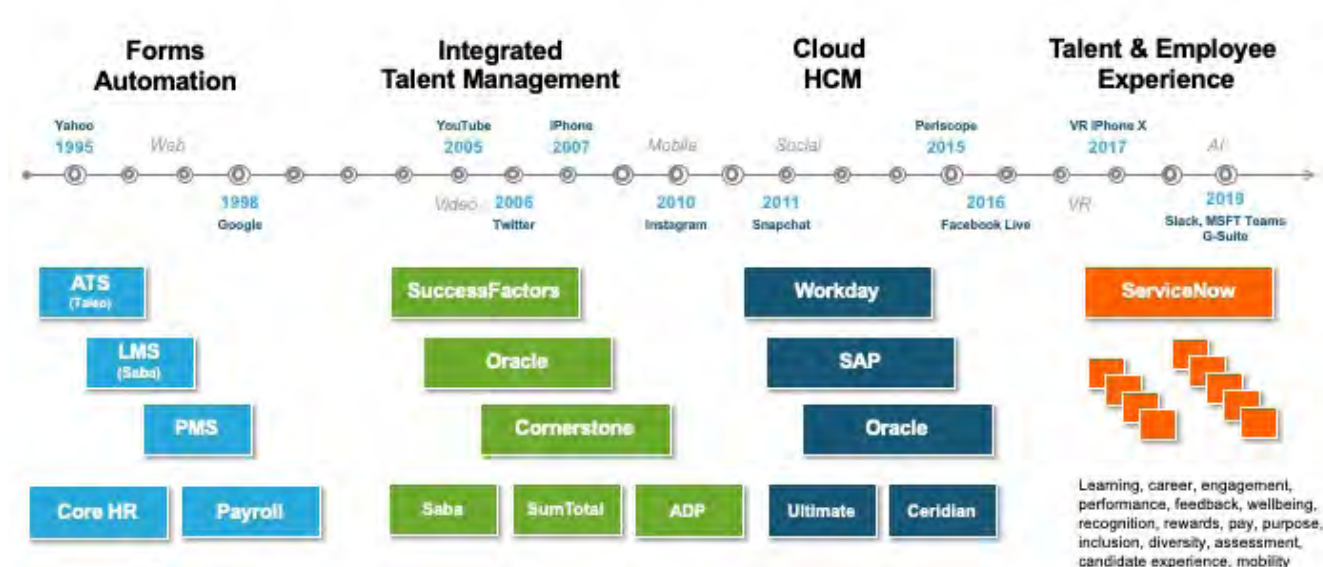


Figure 22: How Talent Systems Have Evolved

job candidates have before they apply to a job. WalkMe, an amazing product that is positioned as a digital enablement tool, monitors your activities in various applications and suggests improvements. All these types of products sit between your 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 (and payroll) and they want to provide these services through open APIs. All of 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.

IBM and TCS's new business is to create intelligent workflows so companies can customize EX for their own operations. I think big companies will benefit greatly from this approach; the EX market is just not out of the box quite yet.

A New Service Delivery Model

As I mentioned earlier, today 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 not happy. All this is part of the employee experience.

This is why almost 55% of companies merge their HR service centers with their IT service centers, 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 EX as a holistic problem, you'll design better solutions. I visited Facebook early last year 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 employees 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 its 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.

6. Employee Listening, Engagement, Culture Tools

No space is more exciting than the world of employee feedback, sensing, and action platforms. In this section, I'll explain the space and give you a sense of some of the key vendors and their major innovations.

Let's set the context. Back in 2015, I wrote an article, "Feedback is the Killer App⁷." 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 fact, companies like Blind started to create anonymous survey platforms that seemed like they'd become the "Yelp" of work.

Since then, the survey market has exploded. More than 40% of companies now use some form of pulse survey or open feedback system, and the pandemic has greatly expanded this market. Almost every HR manager I talk with is surveying employees to understand how they feel about safety, wellbeing, or coming back to work.

The market has grown in three clear directions. First, there are new ways to collect signals. Not only can you design a survey, but you can create a simple daily survey and now collect data in many ways. For example, Medallia can crowdsource ideas, read text messages, listen to voice messages, and even monitor

⁷ <https://www.forbes.com/sites/joshbersin/2015/08/26/employee-feedback-is-the-killer-app-a-new-market-emerges/>



Figure 23: The Overall Map of Employee Experience

website activity. Microsoft Office 365 can identify fatigue and overwork through email and calendar activity. Ultimate Perception and Cultivate can identify mood and tenor in surveys and feedback.

Second, these platforms are becoming analytics engines with real-time response systems. Medallia, Perceptyx, Glint, and Qualtrics trigger alerts and interface with third-party systems based on feedback. (My research report, “Shortening The Distance from Signal to Action,”⁸ describes this.) Glint’s real-time analytics engine recommends actions and training from LinkedIn Learning based on feedback. Perceptyx and Peakon have introduced real-time analytics that deliver feedback and statistically validated answers from large surveys. And CultureAmp introduced Amplify, a tool that delivers conversational microlearning for managers based on feedback results.

Third, the market is now flooded with tools. Nearly every talent or performance platform has feedback included. Lattice and BetterWorks now include feedback, as does Workday, SuccessFactors, and Oracle. Vendors like Waggl (pioneers in crowdsourcing), SurveyMonkey, TinyPulse, Quantum Workplace, Peachy Mondays, and dozens of others

⁸ <https://joshbersin.com/2020/11/employee-experience-4-0-closing-the-loop-from-signal-to-action/>

are sweeping across the market selling survey and feedback platforms to companies of all sizes.

It’s amazing how quickly the market players have changed. 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.

Today, most companies have brought this in house. Employee communications, listening, and employee experience is a core business capability, so it’s no longer an outsourced service. And I think we’ve reached a point where most companies need an employee feedback and communications core team.

Consider what happened at Southwest Airlines. The company discovered, pre-pandemic, that customers had more information about on-time flights than flight attendants. So Southwest created an employee app that lets any staff member provide feedback on airline issues, compliment peers, and provide operational feedback in near real-time. Delta has also done this, and United is moving in the same direction.

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 it was acquired by Gartner. Gallup, Wills Towers Watson, and AON are trying to keep up. Mercer acquired Sirota. The technology war just gets hotter.

- Medallia now offers end-to-end employee listening tools (surveys, crowdsourcing, video analysis, voice, text, sentiment analysis).
- Glint integrates data from many types of surveys into one view of the enterprise and includes performance management, action plans, and directed learning to managers.
- Perceptyx has introduced enterprise-class real-time analytics, performance management, and a highly customizable service for pulse surveys and 360 feedback.
- Workday acquired Peakon and intends to provide out-of-the-box employee listening aligned to every part of the talent process using the Workday profile and employee data.
- CultureAmp introduced performance management and Amplify, a learning tool that gives managers coaching based on feedback results.

- 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.
- Waggl, a pioneer in open, employee-curated listening tools, can capture employee voice in near-real-time.
- Qualtrics, which positions its solution as an end-to-end EX design and measurement system, went public and is no longer part of SAP.

Action Platforms Are Here

The market for employee listening systems has evolved over four phases, and it's now entering a new era. As you can see from Figure 24, the market started with annual engagement tools, moved to pulse tools, then to analytics platforms, and is now evolving to action platforms. And in this fourth stage we want systems that not only analyze information in real-time, but also send messages and cases and advice directly to the person or team needing it.

In many ways, this is the same evolution that took place in customer listening tools. In the 1970s and 1980s, companies

EX 1.0	EX 2.0	EX 3.0	EX 4.0
Annual engagement survey	Pulse surveys with mobile access	Intelligent dashboards and action plans	Continuous response action platforms
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. Dashboards recommend action, deliver nudges, suggestions, and learning or action plans for individuals	Tied into internal systems with alerts, feedback, cases and integration with CX systems. Now called EX, not Engagement
Focus on benchmarking.	Focus on feedback.	Focus on behavior change.	Focus on action.
Survey technology	Mobile, easy to use	Useful data & learning	Instrumented actions and alerts

Figure 24: Four Stages of Employee Engagement Market

built customer data warehouses and then started to do real-time segmentation and marketing. They then acquired integrated CRM systems and now can pinpoint advertising and surveys and net-promoter tools to identify every step in the customer value chain.

The vendors, of course, are all at different stages. I always advise companies to think about their EX maturity before they pick a tool. The vendors at level 3 and 4 include Medallia, Qualtrics, Glint, Perceptyx, Peakon, and CultureAmp. Let me give you a few examples:

- Medallia's tools can survey, sense, and infer employee feedback through surveys, cases, phone calls, video analysis, chat, crowdsourcing, and other types of signals. Its system then analyzes this in real-time and can alert, open a case, or send messages to support teams based on results. Read the report "Shortening The Distance from Signal to Action" to learn more.⁹
- Glint's platform provides real-time analysis to managers and HR teams, and recommends actions and training from LinkedIn Learning based on results.

⁹ Medallia report

- Perceptyx offers customizable surveys which analyze data in real time and provide statistical findings to managers and HR; it also includes integrated performance management.
- CultureAmp's new system Amplify gives team leaders and managers conversational microlearning to help them improve skills based on feedback from the surveys.
- Qualtrics provides much of the functionality of Medallia focused primarily on advanced surveys.

I won't mention all the vendors here, but the market is very large. It includes companies like those shown in Figure 25. Note that surveys are also available in survey tools like Lattice, BetterWorks, Workday, and Oracle.

Categories Starting to Converge

While all these tools are expanding, convergence is also taking place. Employee feedback and surveys are just a broad category that encompasses annual surveys, pulse surveys, open feedback, performance management conversations, exit surveys, kudos, thank yous, and social recognition. These different forms of feedback are all related, and nobody wants to have too many to use.



Figure 25: Employee Listening - Vendor Landscape

Figure 26 shows four categories of software that 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 eyeing each other. This year CultureAmp acquired Zugata. YouEarnedIt (recognition) acquired HighGround (performance management), and the private equity firms are seeing opportunity. (Vista Equity invested in YouEarnedIt – now called Kazoo).

I am not saying this will converge quickly, but I know that BetterWorks acquired Hyphen (surveys) and offers social recognition; Lattice launched surveys and offers social recognition; 15Five includes social recognition; SuccessFactors now has Qualtrics; GloboForce (now called WorkHuman) sells performance management software. And Glint offers end-to-end goal management, performance, feedback, and learning, all in one platform.

You as a buyer still have many options to consider, and many of these tools will be discarded when more integrated solutions appear. 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 Microsoft Workplace Analytics or Cultivate to monitor conversational stress which may indicate professional challenges, problematic behavior, or even fraud. Microsoft's system even analyzes your own work behavior and gives you feedback to help you 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, Waggl, and others 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. Over the next year, we will see lots of advanced sensing and feedback software hit the market (much of this embedded into the performance management tools), and I think this has now become an essential part of your HR tech architecture.



Figure 26: Convergence of Talent Vendors Over Time

Feedback Architecture

Let me briefly talk about the 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. Let me explain.

The survey part of employee feedback occurs in many ways. As Figure 27 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 touches on areas such as productivity and wellbeing.

I recently talked with the HR leader of a large company that 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 do they do this? They're using a graph database (described earlier). The CHRO told me his team has already identified call center productivity drivers, retention drivers, and management tips they never understood before.

And don't forget Microsoft. The new data available in Office 365 Workplace Analytics is extensive. Your Office system has

data on employee productivity, wellbeing, time management, and other important factors that directly impact employee engagement.

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, SpashBI, and core vendors 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. 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.

People Analytics for Employee Listening

The people analytics market continues to be critical. Not only do most of the large HCM vendors now offer integrated analytics, a market for high function new tools has emerged. The leaders are Visier and SplashBI, but look at companies like ChartHop, Nakisa, Orgvue, OneModel (integrates heterogeneous HR systems), and CrunchHR.

I also think organizational network analysis (ONA) will continue to gain momentum. Microsoft Workplace Analytics is clearly the leader in this area (built on acquired technology based on deep ONA analysis) but you can also look at Trustsphere, Keen, and others.



Figure 27: Employee Listening Architecture



Figure 28: Visual View of People Analytics

This year Workday is introducing its diversity and inclusion analytics offering VIBE, designed to point out intersectionality bias in your company. Other vendors like Visier and startup Escalera offer such tools, and there are many new applications for analytics yet to come.

Finally, don't forget that your entire HR team needs to be trained in people analytics. Our new people analytics course in the Josh Bersin Academy is designed for this. Every HR professional should know how to understand, analyze, and use data in their work.

7. Recruitment Market Changes: AI and Data Now Lead

In many ways, recruitment is the most important thing that falls under the HR umbrella. 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.

Recruiting Tech Is Explosive

We've studied recruiting for many years, and in all my research I've found a clear differentiation among those companies who seek out, find, and leverage advanced recruitment technology. This part of HR is a very data-driven domain, so a continuous focus on recruiting technology directly impacts time to hire, quality of hire, and cost to hire.

And 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 year¹⁰, and around the world, this number is at least four to five times larger. Each time someone changes a job, a long list of processes kicks off: a job search, a company search, a set of interviews and assessments, a process for job testing and job fit, background checks – all followed by face-to-face meetings, evaluations, offer negotiations, and then onboarding. All these steps require data and automation, so there are hundreds of tools to buy.

Despite the pandemic, there were more than 22 million jobs open as of December 2020. I believe 2021 will be a year of massive hiring, so we can expect lots of talent acquisition technology to thrive.

¹⁰ <https://www.thebalancecareers.com/how-often-do-people-change-jobs-2060467>



Figure 29: Business Skills Needed in People Analytics

From ATS to Talent Acquisition Platforms

Over the last two decades, the recruiting automation market focused on applicant tracking systems, tools that managed paper or online resumes and the end-to-end process of recruiting. The ATS market continues to be enormously important because there are so many workflows and activities to manage. The companies that sell ATSs (Oracle, ADP, Cornerstone, iCims, Greenhouse, JobVite, Lever, SmartRecruiters, SuccessFactors, SAP, Workday, Ultimate, and others) still have viable business models because every time a new company is formed, it needs a system for recruiting. In times of economic growth, the ATS market expands; during recessions it contracts (companies maintain what they have and don't expand). I won't talk 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 the related complex set of activities: advertising, branding, college campus visits, hosted events, job sites and career portals, assessment processes, alumni and passive candidate pools, scalable interviewing processes, hiring criteria, onboarding, and ongoing data capture to ensure all components are running smoothly and continuously improving.

What most companies find is that there is no one platform to do all of this. Not only do you have to select tools from multiple categories, but you have to integrate these tools together. This is why some of the bigger AI-driven platforms (Eightfold, Avature, Phenom People, iCims, and others) have focused much of their effort on integration and data management, not just highly functional software.

And among all the issues companies face, the biggest is adaptability¹¹. In the recruitment market, Avature has set the pace. This is one of the most adaptable recruitment platforms, which now handles CRM, applicant tracking, onboarding, internal mobility, hiring manager tracking, video interviewing, performance management, and reporting. Its toolset lets administrators and managers create custom workflows. This year I talked with many Avature clients who love the system because it can be configured to do many things in different ways in order to meet the unique recruiting needs for various locations, countries, or business units.

Another vendor I have to point out is Eightfold.ai. This is a technology-led company that built an entire AI-based platform for talent which provides one of the most advanced matching engines, talent mobility solutions, and general workforce planning platforms in the market. Its core market is recruitment, and I suggest you look at it before you revamp your tool set.

¹¹ <https://joshbersin.com/2020/10/the-new-world-of-adaptable-hr-software-avature-sets-the-pace/>

The main theme across this market segment is the rapid maturation of AI in recruiting. Almost every new vendor now leverages AI to help find and filter candidates, assess fit, and determine what to pay. 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.

I spoke with the head of recruitment at Microsoft a few months ago, and he told me the biggest trend Microsoft sees is the steady evolution in the recruiter role. 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. Recruiters themselves are becoming much more focused on conversations and sales and less focused on process management and list management.

I also recently interviewed the head of talent acquisition for a large pharma company, and she told me that the science of genetics is advancing so fast that they can no longer recruit for specific positions or jobs. Rather, her teams now look for people with advanced scientific expertise and recruit them into jobs needing these skills. This is a big trend in AI, machine learning, and cyber, where the core disciplines are advancing so fast that companies can't hire for specific positions. Platforms like Eightfold are very valuable for this use case.

Investors are also getting aggressive in this market. One interesting move I'd like to point out is Jobvite's \$150 million investment by a private equity firm¹². The team combined Jobvite with Talemetry (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 company executives believe, 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 market),¹³ acquired TextRecruit (a

leader in mobile candidate management) and is now generating more than \$230M 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.

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

- Avature has taken off. This is one of the most adaptable platforms in the market, originally designed for candidate relationship management. This year Avature blossomed and now offers everything from CRM to applicant tracking, onboarding, career management, skills inference, talent marketplace, and performance management. I talked with many Avature customers and they are among the most satisfied of any tech buyers I've found.
- 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, Plum, Predictive Hire, and others are hot. Pymetrics, in particular, has proven that neuroscience-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. (If you aren't a good fit at company X, would you be interested in company Y?) 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 Eightfold, Phenom People, AllyO, IBM Watson Career Assistant, and Gloat, all of which help candidates (external and internal) find the right role based on their resumes 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.

¹² https://www.jobvite.com/news_item/k1-invests-over-200-million-in-jobvite-to-create-market-leading-talent-acquisition-platform/

¹³ <https://www.icims.com/about-us/news-room/press-releases/vista-equity-partners-closes-investment-in-icims>

- The slow but steady feature maturation of Workday and Cornerstone is now starting to directly impact the ATS market with their integrated recruitment systems.
- Another disruption is the rapid success of products like Mya, IBM Watson, and integrated chatbots from other vendors which can screen candidates, answer questions, and direct prospects down the funnel with great precision.

Another major disruption is the enormous growth of companies like Indeed, LinkedIn, ZipRecruiter, and other companies we used to call job boards. These companies aggregate, analyze, and support job seekers looking for the next right job. 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), and this will make it ever easier for HR departments to find candidates in these large networks.

Shift from Tools to Platforms

While it's hard to predict what the market will do, I know that big companies are fed up with all the niche recruitment applications they buy. One big client, for example, is spending almost 3.5% of its entire payroll on HR (almost twice industry average). When we talked with company leaders, we found that the company's recruitment platforms included Avature, eQuest, Taleo, HireVue, Yello, Qualtrics, Watson Candidate Assistant, Mya, SHL, and Pymetrics. The entire stack of talent acquisition technology alone cost a fortune.

The company is in the middle of transforming its HR function and cleaning this up, but this situation is pretty typical. Luckily the vendor market is starting to consolidate and the new breed of platforms (Avature, PhenomPeople, iCims, PeopleFluent, and others) are growing so broad they can consolidate many of the categories.

If you work for a large company, I'd advise you try to pick one core platform and consider the niche products somewhat replaceable. For example, most of the core recruitment vendors are building matching and video interviewing tools. Campus scheduling is also becoming integrated into the core platform. The trend in recruitment technology is for small vendors to pioneer new niches, then platform vendors copy or acquire them.

Innovation Continues

A few other interesting companies I want to mention:

- Eightfold.ai, which now has a \$1 billion valuation, has built one of the most complete platforms for job and skills analysis and is reputed to win big deals against Workday. It is one of the most modern end-to-end recruitment and internal talent matching systems on the market today. You have to see it to believe it.
- Karat.io has built a highly automated, intelligent, scalable way to interview candidates (the company is focused on technical talent today). 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 compares job descriptions to historic hiring decisions to understand the role, and 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. This deepens your candidate pool and increases 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.
- New categories being created include robotic process automation (UiPath, BluePrism) to automate screening and many administrative tasks and advanced analytics (Visier, SpashBI, CrunchHR).

AI-Based Assessment

One cannot talk about talent acquisition without mentioning the explosive growth of AI and neuroscience-based assessment. The offerings of these companies disrupt many of the traditional interviewing, sourcing, and screening tools – potentially even disrupting LinkedIn:

- Pymetrics is a leader, offering game- and neuroscience-based assessments that can match candidates to any job in your company. The company's 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, JPMorgan 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.
- Predictive Hire has built an entire chatbot-based assessment process that uses advanced personality testing to assess candidates. Its AI is well proven to help candidates find the best job for their skills and interests.
- Watson Candidate Assistant, now part of IBM's Talent Platform, has been well proven as an AI-based candidate

matching solution. IBM sells it as part of the company's end-to-end services and platform offerings¹⁴.

Diversity, Inclusion, and Bias Detection Tools

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.

Workday introduced VIBE, a very creative and powerful way to identify bias and diversity issues in any intersectionality area of your workforce. An "intersection" may be gender, race, and age, for example. With VIBE, you can quickly see things like "we are interviewing above representation in Asian males but our Asian female and African American female population of leaders is way below representation." It's one of the most unique and powerful new DEI solutions I have seen.

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 capture evidence for later investigations. HRAcutiy is a similar platform designed for employee relations management, and both Bravely and Spot also 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 unconscious ways to discriminate. They also help you create mood in your job descriptions.

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, DebiasVR, and others now offer real-world diversity training, putting you directly in uncomfortable situations to teach you what biases you have and to help managers and team leaders improve their own practices and behaviors.

¹⁴ <https://joshbersin.com/2020/12/the-evolving-role-of-ibm-in-the-hr-marketplace/>

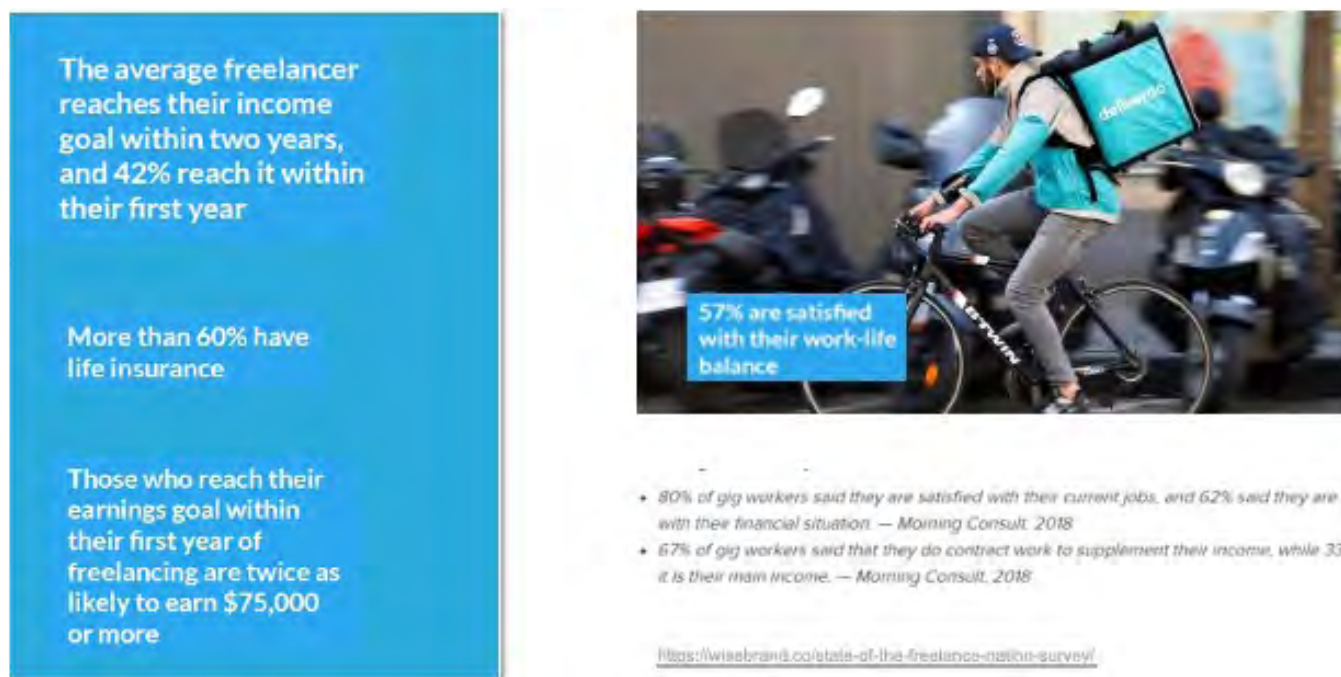


Figure 30: Growth in Freelancing

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.

The new startup Eskalera is building an entire end-to-end platform for diversity and inclusion and a new model for DEI training and education.

8. Gig Work Management Is Becoming a Category

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 is in a non-full-time work situation (contractors, part-time workers, gig workers, or contingent workers fall into this category), and much of the data I now read says the actual number is closer to 50%.

This trend is increasing. A detailed academic report in 2016¹⁵ 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.

Consider the following: ADP recently shared that since 2018 there has been a 4% drop in the number of W-2s filed (annual employment tax reporting) and a 23% increase in the number of 1099s filed (independent contractors).

The trend is even stronger among younger workers. Deloitte’s 2019 Millennial Study (which surveys more than 60,000 people) found that 49% of Millennials and Gen-Zers plan to leave their jobs within two years and 61% plan to do gig work on the side. 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 study by the gig platform Freelancer this year 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. Gig workers are less worried about income stability than full-time employees!¹⁶

¹⁵ https://krueger.princeton.edu/sites/default/files/akrueger/files/katz_krueger_cws_-_march_29_20165.pdf

¹⁶ <https://wisebrand.co/state-of-the-freelance-nation-survey/>

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. The fast-growing company Shift 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 helps people find part-time unskilled jobs, and a new company called Moonlighting (funded by Kelly Service) is building a gig network based on blockchain technology¹⁷.

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.

There is also an emerging market for internship networks. In the U.K., Whitehat¹⁸, a company founded by Euan Blair (Tony

Blair's son), has developed a complete end-to-end sourcing, training, and management platform for internships¹⁹. 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), and they are now expanding into the U.S.

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

Need for Gig Management Platforms

In 2020 I completed a major study with HRPS on the alternative workforce²⁰ and found, unfortunately, only 16% of companies have a strategy for managing gig work (most of these people are hired by line managers and administered through the purchasing department), and only 12% qualified as high-performers in our assessment of their capabilities in this area.

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

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

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

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

BIGGEST FREELANCE WEBSITES	SIZE	TOTAL TRANSACTION VOLUME	HQ	GLOBAL WEB RANKING (LOW IS HIGHER)
Freelancer.com	35 million users in 247 countries ²¹	\$4.1 billion ²²	Australia	#1337
Upwork.com (formerly Elance-oDesk)	14 million freelancers in 180 countries	\$1.8 billion ²³	US	#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

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

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

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

The study highlighted a general lack of interest in managing gig workers strategically (this is changing quickly however) and a dearth of relevant data. Companies (HR departments in particular) simply do not know how many contractors or part-timers they have, they don't know what they're 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% had good data about their gig workers and more than two thirds had almost no data at all. Clearly this is an opportunity for HR technology, so many vendors are now starting to build tools to make managing this workforce easier.

What does this all mean for HR tech? The market for vendor management systems, contingent work systems, gig work platforms, and gig work platforms is exploding. ADP offers WorkMarket, SAP introduced FieldGlass last year, and the new breed of internal talent marketplace vendors are going directly after this market.

There are quite a few categories of contingent work platforms today. Vendor management systems (VMSs) help companies manage vendor contracts (more than 75% of companies manage contractors through the purchasing department, not the HR department); contingent work systems (like WorkMarket) let companies set up gig and contingent pools; time and labor systems (such as Kronos, SAP, Oracle, Workday) let companies set up part-time hourly workers; and many new gig management systems are coming. Legion²⁴, 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 research I completed with HRPS, 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.

²⁴ <https://techcrunch.com/2017/09/27/legion-raises-10-5m-to-roll-out-an-automated-employee-scheduling-tool/>

9. The Talent Marketplace

Just as the external market has shifted toward gig and contingent work, so has work inside the company. My latest research found that 35% of companies now operate as a network of teams, which means they share talent, skills, and goals across the company. More and more company leaders now realize that their talent management strategy should be focused on helping employees find their own optimum career paths through projects, developmental assignments, new roles, and mentorship.

I've been studying this trend for years and this talent model is now starting to take off. Not only is it better for people's careers, it gives the business more agility and better utilizes existing internal skills without the high cost of recruiting people.

I recently wrote a long article on the way Unilever and Schneider Electric²⁵ manage their workforces as an internal talent market. Since then, companies like PepsiCo, WalMart, Societe Generale, SAP, and many others have moved in this direction.

In every case the benefits are tremendous. The talent marketplace enables internal mobility, gig project work, mentoring, and even job sharing. And as these platforms become more prevalent, I think you'll see features like performance appraisals, assessment, and learning paths becoming part of the platform. Fuel50, one of the pioneers in this market, started as a career and learning management system.

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

The Talent Marketplace: A New Business Architecture

In many ways, talent marketplaces are not new applications; rather they represent a fundamental shift in how we manage people.

In a traditional HR platform, the company is modeled as a

²⁵ <https://joshbersin.com/2019/07/the-company-as-a-talent-network-unilever-and-schneider-electric-show-the-way/>

hierarchy. We hire people for a job, which has a level and a reporting relationship. Then we create salary bands, benefits, and other attributes of the role. This job architecture is based on the 1800-era industrial corporation – one in which the workforce was divided between management and labor. In such companies, the managers directed work and the labor did the work.

This model is quickly becoming obsolete. Now most employees work in roles that may or may not be well defined by job descriptions. While the job architecture remains, companies now find that the highly structured, multi-level job families get in the way. Suppose you're the marketing ops manager and someone asks you to help them build a new program for new customer acquisition. Do you tell them, "That's not my job"? Of course not.

In today's businesses, we all lend a hand to the projects, initiatives, and strategies the company needs. Most of us have core responsibilities but we do project work too. These used to be called stretch or developmental assignments. Today they're just part of everyday work life.

And for some employees, jobs are shared. At SAP and other companies, employees with young children, for example, share their jobs with others. One person may take 70% of the job and another may take 30%. And this decomposition will continue. In fact, the model for most companies going forward is the one typically used by professional service organizations. We are all here to serve customers and each other, and on a day-by-day or month-by-month basis, we do different things based on what the business needs.

There are many implications of this, and we are now helping companies with next-generation job architectures to address this transformation. Job competencies, for example, are giving way to capability models. And of course, how you assess who is assigned to what project, how people are evaluated, and how you build a career is all going through change.

Just think about how a marketplace works in your personal life. When you go to Amazon, you buy the product with the right price, features, and delivery speed. Similarly in a company-wide talent marketplace, people are valued by their skills, reputation, experience, and ability to learn. It's all good stuff, but it requires a big rethink of what software you use.

Software Vendors Pile on Fast

The software vendors have really piled into this market in a hurry. Initially pioneered by a few bleeding-edge companies (Fuel 50, Gloat), this is now a red hot market which lots of vendors have entered. Entrants tend to come from three legacies: recruiting vendors that bring job matching technology to the market (Gloat, Eightfold, Avature, PhenomPeople, Pymetrics); learning vendors that bring career and learning to the market (Degreed, EdCast, Fuel50); HCM vendors that want to build internal career portals (Workday, Oracle, Cornerstone, PeopleFluent). Additionally, there are some pretty interesting vendors that focus on the whole areas of job sharing, peer-to-peer networking, and collaboration (Hitch, 365 Talents, Tandemploy).

The Reality of Building a Marketplace

Building a talent marketplace sounds like a great idea, but it's kind of like getting a heart transplant. There is a lot of plumbing to take care of in order for it to work. Companies buying solutions tend to have many competing requirements. A recent review of 30-plus RFPs showed a list of needs:

- Creating more career opportunities for employees
- Expanding the number of learning solutions for growth
- Enabling managers to find internal skills more accurately
- Helping part-time people find gig work or projects
- Developing a system to find mentors and coaches for people
- Giving people new opportunities to explore other job options
- Creating cross-functional career paths
- Developing a system for massive redeployment or job change
- Creating a system for long term workforce planning
- Improving employee engagement by giving people new opportunities

The list goes on and on. Ultimately this is a new way of running your company, so you have to think about a lot of things. Most companies start at the left and move to the right (Figure 36), focusing on one business function (IT, HR, finance).

When you move to a talent marketplace, you'll find many cultural issues that must be addressed.

COMPANY	OFFERING
Gloat	Company was initially called Workey and built an AI-based matching algorithm for job candidates. The technology has now been totally refactored and designed for internal skills matching, gig work management, and mentorship.
Fuel50	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.
Hitch	Company was an internally developed system for Here Technology (merger between Nokia and Mapquest) and includes an end-to-end talent marketplace and gig work system for corporations. Very seasoned management team.
Eightfold	Company has a leading AI-based matching engine and has built out leading talent marketplace solution that can integrate with enterprise-class recruiting platform. High degree of skills intelligence.
Avature	Very impressive end-to-end platform which is adaptable and workflow based which lets companies view internal marketplace jobs as part of the end-to-end recruiting and hiring manager cycle. Includes skills model and advanced matching.
Pymetrics	Has extended its leading-edge, AI-based capability assessment so companies can create talent marketplaces and let managers find candidates using Pymetrics assessment. The company is now sharing candidates between clients.
Degreed	Through acquisition of Adepto, Degreed has now build out a talent mobility and job matching system which complements the company's LXP and uses the LXP as the primary user experience.
EdCast	Similar to Degreed, EdCast can now include assignments, projects, and tasks as part of an employee's learning experience, using AI to match employees to the best opportunities in their career and development journey.
Oracle	Offers an internal mobility platform for career development, essentially exposing all external jobs to internal candidates.
365 Talents	Developed an innovative gig work and talent marketplace system, including ability to find coaches and peers. It is widely used in France and now expanding into other countries.
Cornerstone	Working on a new career management system which will operate as a talent marketplace sometime in 2021.
Tandemploy	Very advanced tool for job sharing, gig work management, discovery or peers and mentors. It is funded by Microsoft and now in wide use within SAP and includes job sharing, mentoring, job search, and skills matching.
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, a company already in this space, and used its technology as the foundation for building Workday Talent Marketplace, which is coupled to Workday Skills Cloud.

For example, you need to enable people to work on multiple projects; you need to change the role of managers to one emphasizing coaching; you need to reward people for horizontal contributions and growth; you need to create a strong culture of internal collaboration and cross-divisional communication; you need to stop managers from guarding their superstars from other divisions or managers.

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

Advanced Features to Consider

Since the talent marketplace segment is still new, there are many second order features still being invented. As you select a vendor, it's really important that you think about what kind of experience you're trying to create. For example, new players like Avature, Eightfold, and others (which are enterprise platform companies) offer many new ideas:

- Custom workflows for projects, job sharing, assignments, international rotations, or other types of opportunities.
- Automatic recommendations of opportunities based on your experience level, credentials (certifications), inferred skills, LinkedIn skills, training history, and interests.

Planned	Facilitated	Agile
• Skills and experience • Tenure and reputation • Assessments, gated paths	• Needs of the business • Developmental needs • May be stretch assignment	• Changeable at any time • Based on interest and skills • Skills models may help
Clear functional career paths which employees traverse over time with succession, talent reviews, and manager-led coaching integrated into talent management.	Job moves, relocations, stretch assignments, and promotions are facilitated outside the model for high-potentials, critical talent needs, restructuring, M&A, and other rapid changes.	Individuals can find new gigs, assignments, jobs, and roles themselves, apply for jobs, and move internally – including gig work and projects.

Figure 31: Three Models for Talent Mobility

- Alerts to employees when new opportunities arise that may be developmental.
 - Career journeys which recommend specific jobs based on AI-driven paths that are inferred from other successful people in a particular role or career.
 - Display of the opportunity, the team associated with the opportunity, the qualifications desired, and other characteristics similar to a job website.
 - Ability for opportunity owners to actively search and reach out directly to people who may be qualified.
 - A hiring dashboard that lets managers create and manage postings, look at open positions within their groups, and review internal candidates (very similar to dashboards created for external hiring).
 - Special project pages so managers can see who is joining projects, the work people take on within projects, and roles that need to be filled.
 - Special interest groups that let people share information or collaborate around topics or opportunities. Associated technology can recommend development plans based on activities and projects.
 - Features enabling an employee to seek out a mentor or to volunteer to be a spot mentor or career mentor to others.
 - Integration of micro-learning so an employee who wants a particular role or assignment can take training which is specified as a pre-requisite or recommended path.
 - Comprehensive reporting that shows growth in skills, number of roles filled, types of roles in demand, average length of project, and more.
- As you can see, the talent marketplace is actually a massive replacement of traditional “pre-hire to retire” talent management. Take this category seriously because I believe we will see performance ratings for project work, onboarding, and other features) added to these platforms in the coming year.

10. Performance Management Tools Evolve

One of the thorniest and most controversial parts of HR is performance management. Should you just use your standard HCM platform to store ratings and year-end reviews? Or should you buy one of the many systems that include collaboration, check-ins, OKR goal management, goal cascading, career planning, development planning, succession reviews, and other features?

And then there are bigger questions. How complex should the process be? 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? What about career planning and development?

I've been studying this area since 2006, and I believe we are now entering an era of convergence. Many of the interesting ideas related to performance management (continuous performance management, OKRs, open two-way feedback, check-ins, growth mindset, development coaching, talent marketplace) are all starting to converge. Performance management is not about implementing a complex HR process; it's about defining what performance means in your team, division, or company.

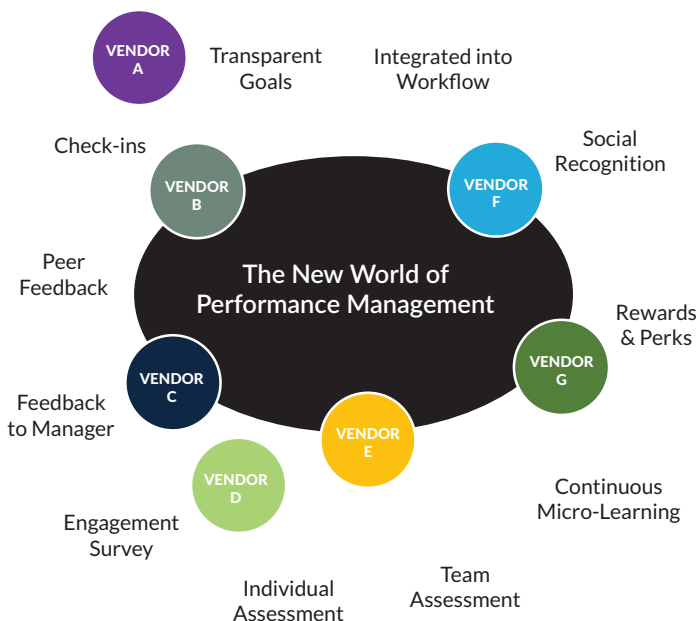
And that means that your performance management tools must be simple, highly connected, and very aligned to your corporate culture.

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

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.

Look at the market today. Products are coming from four different directions, all trying to address the same market (see Figure 27).

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 (CultureAmp, Glint) offer feedback and other types of listening tools and some are adding performance. And the recognition vendors, which collect and manage feedback as their core, are adding performance features as well (Achievers offers feedback; Laudio offers AI-driven coaching with recognition; WorkHuman (formerly Globoforce) offers a variety of feedback solutions combined with performance; and Kazoo was formed by the merger of YouEarnedIt, a recognition company, with HighGround, a performance management company.



Major Cultural Change	
Major Cultural Change	→ Continuous
Manager-Centric	→ Team-Centric
Heirarchical	→ Multi-Directional
Competitive	→ Developmental
Subjective	→ Data-Driven
Secret	→ Transparent
Single Rating	→ Richer Rating

Figure 32: Key Features in Performance Management

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

- Mid-market platforms like Lattice, 15Five, Quantum Workplace, CultureAmp, and new entrants like Glint, WorkHuman, BetterWorks, and Kazoo are all growing. Companies are getting tired of having too many tools so all these vendors are expanding with surveys, development planning, and other capabilities so they can become more end-to-end systems.
- SuccessFactors' continuous performance management tool has been a success because it implements many of the new features companies want and also lets companies simultaneously use traditional practices as well.
- The OKR goal management approach continues to pick up speed (very popular in software companies like Google, Intel, Intuit, WalMart Labs, and others) so vendors like BetterWorks (pioneer of OKR management), Workboard, and 7Geese (now owned by Paycor) are finding a fast-growing market.
- For companies focused on OKR goal measurement (definitely the fastest growing model for management in fast-growing companies), the leaders are BetterWorks, 15Five, 7Geese, Workboard, and Just3Things.

- For companies who want 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.

This market is filled with acquisitions. Innovative new vendors are often acquired as the categories start to merge.

For example, over the last two years, Zugata (AI-based, 360-skills assessment) was acquired by CultureAmp (leader in employee voice and engagement); HighGround was acquired by YouEarnedIt to form Kazoo; BetterWorks acquired Hyphen; Paycor acquired 7Geese; and vendors like Glint, Perceptyx, Peakon, 15Five, Lattice, and Quantum Workplace introduced major new features. Workhuman, one of the leaders in employee recognition, is now formally in this market, and I wouldn't be surprised to see OC Tanner or others enter.

The problem we face is that the business process for performance management is poorly defined and very complex. This year most companies radically simplified their process to save people time, but in high growth periods, companies make it quite complex.

As Figure 33 shows, performance management touches everything from goal setting to collaboration and check-in, social recognition, development, reviews, succession,



Figure 33: The Performance Management Process

development planning, and job assignments. In a sense, this area of HR touches everything from onboarding to ratings to pay to the talent marketplace.

In small and mid-market companies, these platforms are vitally important because they are used to support the core relationship between employees and managers. But as companies grow and people start moving from role to role, these platforms have to become very adaptive and feature rich. This is why most companies use their core HCM system for ratings, and then add-on these other features as needed.

When we consult with companies, we always start with the performance philosophy. Is it developmental, OKR execution oriented, or up or out competitive? From there, we discuss what kinds of features will work to support the philosophy and culture. This is important, because if a software tool isn't a good fit, adoption will be a struggle and the implementation may fail. Intuit, for example, a happy user of BetterWorks, drives its culture through OKR-like goals, check-ins, and reviews. Many other companies are less rigorous so an OKR-based solution will feel like too much work for managers and employees.

Big vendors all play in this space. SuccessFactors has a continuous performance management offering which is now being used by more than 1,000 companies, and I hear strong interest in it from clients. Oracle has introduced a more agile performance system and Workday has released more agile performance tools. Workday has taken the process they use internally (focused on contribution, capabilities, career, compensation, and connections) and is now showing companies how to implement a similar model. Internally Workday is committed to the OKR model, so I believe the company's product will move in this direction.

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 in the next few years.

As I've discussed above, smaller organizations can easily implement one of these systems and find them very complementary with their core HR platform (most store end-of-year reviews in the core HCM system). But large organizations often have a quandary because needs vary across the functions.

How do we implement a continuous performance management system which is very goal-oriented for sales professional, 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 in their implementation of these systems. Most of these companies have purchased one or more vendor products and they 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.

Nearly every HR leader who implements a more continuous process tells me the results are 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.

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; their check-ins give them and managers better reflection on why they did or did not receive the rating and raise they wanted; 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. Almost all leaders tell me these tools increase management communication and also give HR a much better sense of who the strong managers are.

If you do implement a talent mobility model, you will want performance information to come from these assignments or projects. You'll want some type of rating or evaluation to flow from those activities into this core system.

Remember also that the performance process generates enormous amounts of important data. These new systems also capture organizational network data. They also often have pulse surveys built-in, so one can see which manager is driving higher levels of engagement and which manager may be more biased or discriminatory. The offerings help visualize data about the nature of goals, the nature of 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 in the tool were statistically higher performers at a very high level of confidence. You can see when an employee is checked out and even identify 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, one of the most highly esteemed

hospitality companies in the world, recently changed its performance process to focus every employee on their team's success. There are no more individual reviews; everyone is evaluated based on the success of their local property. The CHRO told me the company saw tremendous increases in engagement and alignment, to say nothing of the benefits to customers. Think about a Taj employee who sees a broken light or spill in the hotel lobby. Rather than delegating the problem, the employee jumps in to fix it. THIS is what we want performance management to do!

Finally, as I discussed earlier, 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 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.

Over the next two years I some of these vendors will grow and others will go away, so whatever platform you buy – get ready to replace it just in case. (Reflektiv, for example, is one that may be acquired.)



Figure 34: Performance Management as an Integrated Process



Figure 35: Convergence of Talent Applications

11. Innovation and Growth in Learning Technology

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, which I show in Figure 36, is creating an employee experience that enables learning in the flow of work²⁶ while also advancing professional academies within a company.

One cannot ignore the enormous growth in learning experience platforms, which are becoming the LMS systems of the future. Once designed to be learning portals, they now have LMS features and skills inference engines and are slowly turning into talent marketplace systems. But their core feature is easily finding, arranging, and recommending content.

While I am a huge fan of the LXP, it is a means to an end. An LXP doesn't train you at all – it just helps you find and arrange the training you need. And while the whole idea of the "Netflix of content" seemed great a few years ago, the real power is the content itself, not the recommendation engine. While almost every LXP and LMS vendor claims to have amazing recommendation engines, I would take them with a dash of skepticism. Why? Because no software system can possibly

identify the capabilities you need in your company. While they can do a good job of seeing what other people are consuming, that's only a piece of the puzzle.

The Big Topic: Skills vs. Capabilities

I've somewhat staked my reputation on a big debate: will skills engines really make your company smarter? I believe not. They're only one small piece of the problem.

Consider the Figure 4. Your job is really not that important these days; the roles, projects, and work you do is what matters. What companies really want to do is identify the core capabilities you need in those roles, and these business capabilities are made up of skills.

For example, in our HR Capability Assessment, we have capabilities like employment branding. This is a complex capability domain that encompasses positioning, messaging, competitive analysis, SEO, advertising, and many other skills. We see successful companies identifying their own strategic capabilities each year, and from there use the software to find the right underlying skills needed.

Don't get me wrong: I know systems like Eightfold, Degreed, EdCast, Percipio, and others are very good at finding out what skills and expertise you need to succeed in many jobs. But

²⁶ <https://joshbersin.com/2018/06/a-new-paradigm-for-corporate-training-learning-in-the-flow-of-work/>

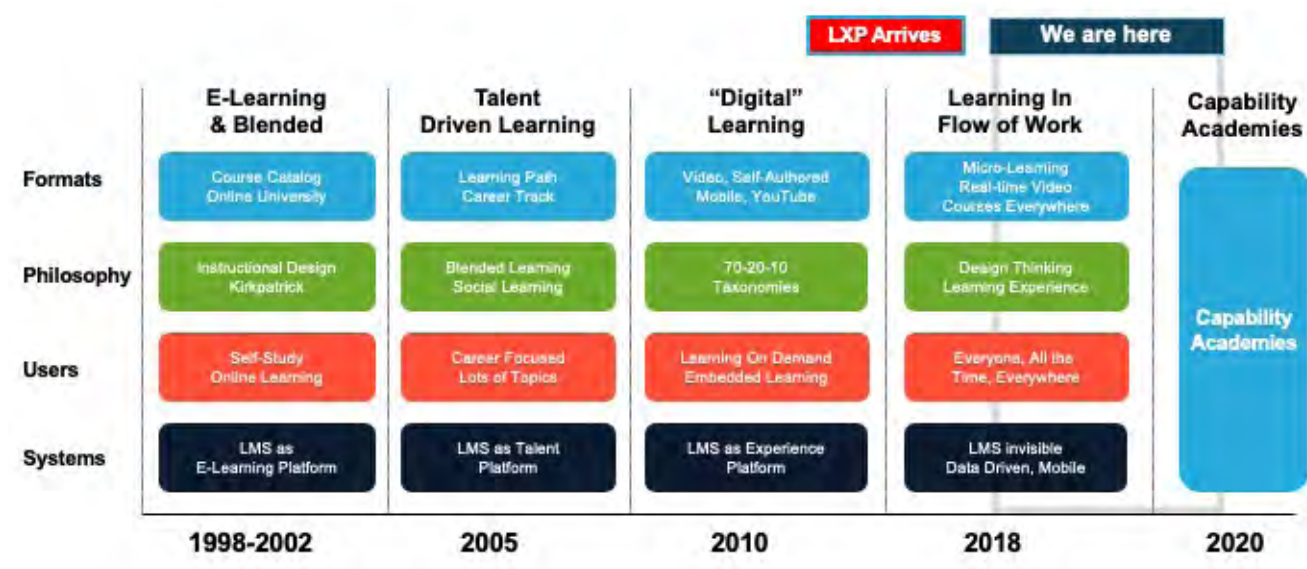


Figure 36: Evolution of Corporate Learning

these are often the core skills not the very complex skills you need to succeed.

Lockheed Martin, for example, found that there are about 90 core technical capabilities it needs to stay current, and each year a team of business and engineering leaders revisits the taxonomy. I doubt that Intel, Microsoft, or GE could copy the capabilities that Lockheed needs.

Anyway, all these tools help, but I'm just advising you to take them with a grain of salt. Just turning them on won't make your libraries of learning more useful. And recommending content won't necessarily make people better at their jobs.

Enter the New World of Academies

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

An academy is not only staffed by instructors; it's also staffed by experts. Today companies want 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:

- **Assessment.** You can buy assessment tools or build tests and verify skills through testing. People can write reviews and assessments after each project.
- **Peers.** You can ask people to tell you the skills of others and through crowd sourcing you can identify skilled people.
- **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 ways are most useful. But more and more of the tools in the market (Workday Skills Cloud, Phenom, Gloat) are trying to do the third. You can also capture data from LinkedIn and other networks to do this.

The LMS Market Adapts

While the need for skills development has grown, the LMS market has struggled to keep up. So instead, an enormous industry of new systems (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. It processes compliance training, tracks and stores learning completion data, runs business rules and management approvals, and handles certification, customer training paths, and revenue generating training. In other words, it's like a learning and training ERP system.

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

Cornerstone, which now owns Saba, 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. It is also 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. As Skillsoft goes public this year, I would not be surprised to see the company stop investments in SumTotal and put all its energy into Percipio.

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. And the company has recently launched a new enterprise learning strategy which I'm pretty excited about.

Oracle and Workday are banking on the fact that their learning platforms will be easy to buy and already integrated into their core HCM platforms, making it easy for customers to turn it on and deliver integrated experiences. Both LMS solutions are missing many features which the more focused vendors provide, but their customers often acquire the platforms 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. Docebo, for example, went public this year and is now growing at a rapid rate. Totara (a Moodle based system) is also becoming a major player. Fuse Universal, a system originally designed for global collaborative learning, is now competing with the traditional LMS. And vendors like LTG, Valamis, EdCast, and Degreed are all adding LMS features.

In many ways the learning tech market looks like Figure 38. Companies have an LMS for business rules and catalog management; they have an LRS (learning record store) for detailed tracking and analytics; they have an HRMS for job-related learning and compliance; they have a talent marketplace for career mobility; and there are systems for content, third party providers, and knowledge management.

This is why the average large L&D department has 22 different tools and systems, and many companies have multiple LMS platforms and often hundreds of content providers.

The New Learning Tech Vendor Marketplace

The new marketplace looks more like what is depicted in Figure 38:

1. **Learning Experience Platforms:** This market segment represents tools like Edcast, Degreed, Valamis, 360Learning, and Fuse at its core along with new entrants such as Cornerstone, SkillSoft, Instructure, and

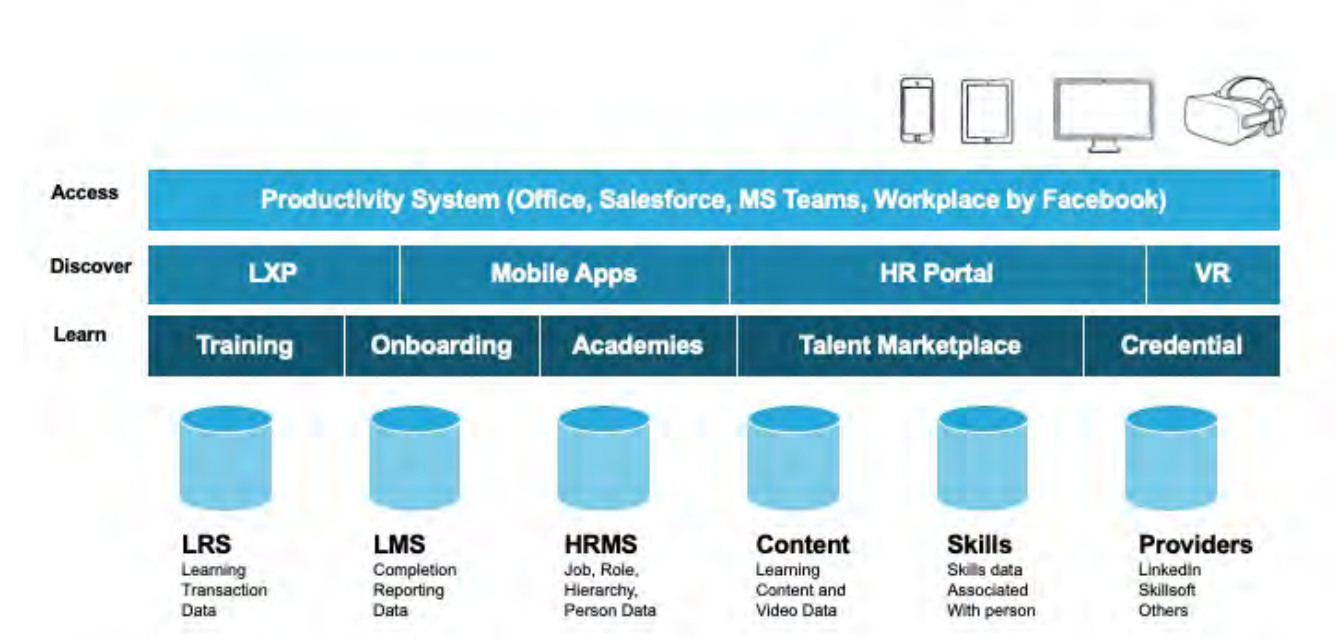


Figure 37: Learning Architecture of Today

others. These are systems that aggregate content from any source (including internally developed content), they use machine learning to recommend content to each individual, they let you build learning paths, and they try to assess the skills of each individual through their activity.

In some ways they are designed to be in-the-flow systems, but they are actually more like YouTube or Netflix -- systems that are 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. As I explain earlier above, they really represent a new paradigm and go beyond the course catalog.

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. And the new paradigm has encouraged Workday and Oracle to build front ends that behave like this. SuccessFactors JAM can also perform

this function. 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-like system at work, there are times when we need a real MOOC-like platform for learning. A MOOC, unlike a single video course, steps you through an entire curriculum and actually delivers you at 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.

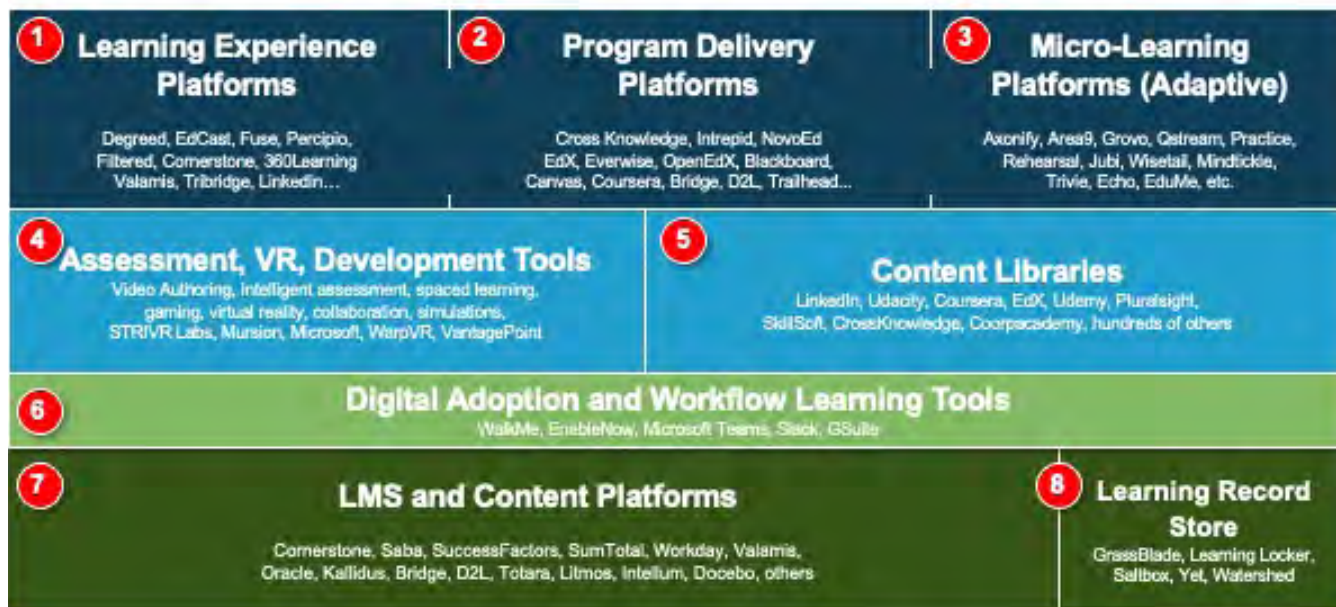


Figure 38: The Learning Tech Marketplace

Companies like NovoEd, Learning Technologies Group, and Inkling are fast-growing here, as well as new platforms like Hone, which offers a revolutionary new live learning experience coupled with expert-led content. Bridge is a good example of a next-generation LMS and learning program management system, as is Desire2Learn, another next-gen LMS, and CoopAcademy, a company that has built a program management system with leadership and expert content.

- The third category is what I call true microlearning platforms. Companies like Axonify, Grovo (now owned by Cornerstone), and to some degree Fused, Filtered, and many others fit here. What these companies are doing is truly building what we often call adaptive learning paths – systems which truly deliver the correct or appropriate learning based on your learning history, your job, or some other activity at work. I believe this will be explosive and fundamental going forward.

Axonify, for example, can deliver safety training to a worker in a prescribed and intelligent path, in five-minute chunks each day. It can then ask the learner how confident he or she feels about the material. Through its machine learning algorithms, the system can give you just

enough learning to finish the goal. This is truly learning in the flow of work and it demands quite a smart platform.

Most vendors are inching in this direction. Skillsoft and Edcast have browser plugins to Slack to deliver appropriate learning. WalkMe and EnableNow can deliver context-sensitive learning for software and computer applications. Instructure is 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 (it lets you query and find information in the Academy directly from Teams, and also lets you break out of a program in the Academy and go to Teams to collaborate, with an integrated “conversation starter™”).

4. The fourth category is a huge space of assessment, VR, and virtual learning tools. I don't know all the vendors here but it's amazingly exciting. The company I've spent most time with is STRIVR, which has developed a complete development and delivery solution for 3D, video and audio based virtual learning. It will blow your mind. Wal-Mart, United Rentals, and JetBlue all now use the system for all sorts of high-risk, high-cost, high-value training applications. Think about all the situations in your company where someone is doing something that is potentially risky or highly consequential but is difficult to simulate. VR can be the solution. Other important vendors include Mursion (avatars which work extremely well), WarpVR (complete VR development suite), and NIIT, which can build many forms of VR for many applications.
5. In the area of content, the 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 are growing. In many ways, the LXP market is enabling and freeing up companies to buy more content, and you now have much better information about what people are using. All my work in L&D has

shown that a very small percent of content is used, but in a large company you do want a large library 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; they bring amazing depth of IP to the market. If you buy an LXP or other open platform, you then have the opportunity to pick the best content and make it easy to find.

6. Digital adoption and workflow learning tools are a special category. Leaders in this category are WalkMe, EnableNow, and soon 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. Like the LXP segment, I think this is one where every company needs something.
7. The LMS market continues. Vendors are all well run, rapidly advancing companies, and their products are growing in capability. But the core features of an LMS -- course administration, tracking, compliance processing,

Micro-Learning	Macro-Learning
<i>I need help now.</i>	<i>I want to learn something new.</i>
• 2 minutes or less • Topic or problem based • Search by asking a question • Video or text • Indexed and searchable • Content rated for quality and utility	• Several hours or days • Definitions, concepts, principles, and practice • Exercises graded by others • People to talk with, learn from • Coaching and support needed
<i>Is the content useful and accurate?</i>	<i>Is the author authoritative and educational?</i>
<i>Videos, articles, code samples, tools</i>	<i>Courses, classes, MOOCs, programs</i>

Figure 39: Micro vs. Macro Learning

business rules, and revenue-generating learning – are all important. You have to do an RFP to evaluate these products well, because they are all changing so quickly.

8. The new disruptive space here is the learning record store. This is a category of tool that lets you store all 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. Major players here are Learning Pool and LTG.
9. Finally, don't forget the talent marketplace, described earlier. It is essentially a learning system at its core.

There are many big disruptions in this market. Workday is working hard on its learning platform and while it's not a fully complete LMS yet, the company is pushing hard and has more than 800 customers. Oracle HCM's learning platform has also rapidly matured and is starting to compete with standalone LMS products.

SAP announced a major commitment to the learning market and is now integrating the SuccessFactors LMS with Jam, Learning Hub, Enable Now, and many of the internal tools used within the company. It has taken our lead and is building a capability center which will let you put all your business capabilities in one place, leveraging them throughout the talent cycle and across many of the SAP enterprise systems.

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), Microsoft (Teams app), and 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 concept 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 requested repeatable learning journeys which might or might 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. These systems let employees find the next role and identify the specific developmental experiences and training needed to acquire necessary skills. 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 (360Learning, NovoEd, Nomadic) are building an integrated place to learn in contrast to a place to launch learning. This means adding features like integrated collaboration (within and across programs), badging, advanced analytics, and much more advanced assessment and community features. This is where the LXP turns into a program management platform as well as a search and discovery platform. Trailhead by Salesforce and NovoEd are examples here.

This is also where vendors start to add advanced authoring and advanced video. The two premier solutions here 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: Talent Marketplace LMS Functional Merger

At some point the LXP vendors will be asked to build full-fledged LMS functionality (certification paths, manager approvals, resource management, content versioning, scheduling). But today most LXP vendors partner with LMS providers or they come from LMS companies (Cornerstone, Percipio, Instilled, Valamis). Already EdCast and Degreed have added scheduling features, and both vendors offer pieces of a talent marketplace.

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/LXP (or a single vendor that does both). If you're a bigger company, it means really rethinking your corporate learning architecture.

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 40. It is now up to you to bring these together.

Shell, one of the most innovative learning organizations I've ever seen, has stitched together all these elements into an

entire academy focused on geologic science, engineering, and production.

I recommend you watch Shell's L&D leader Henk Jaak Klosterman's video²⁷. Shell's 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 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: how your L&D function operates. 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 (such as sales and engineering) and build the capability academies the company needs. We're working with dozens of companies on this process and it's an exciting new direction for corporate learning around the world.

²⁷ <https://www.youtube.com/watch?v=yoZoOzFM32M&feature=youtu.be>

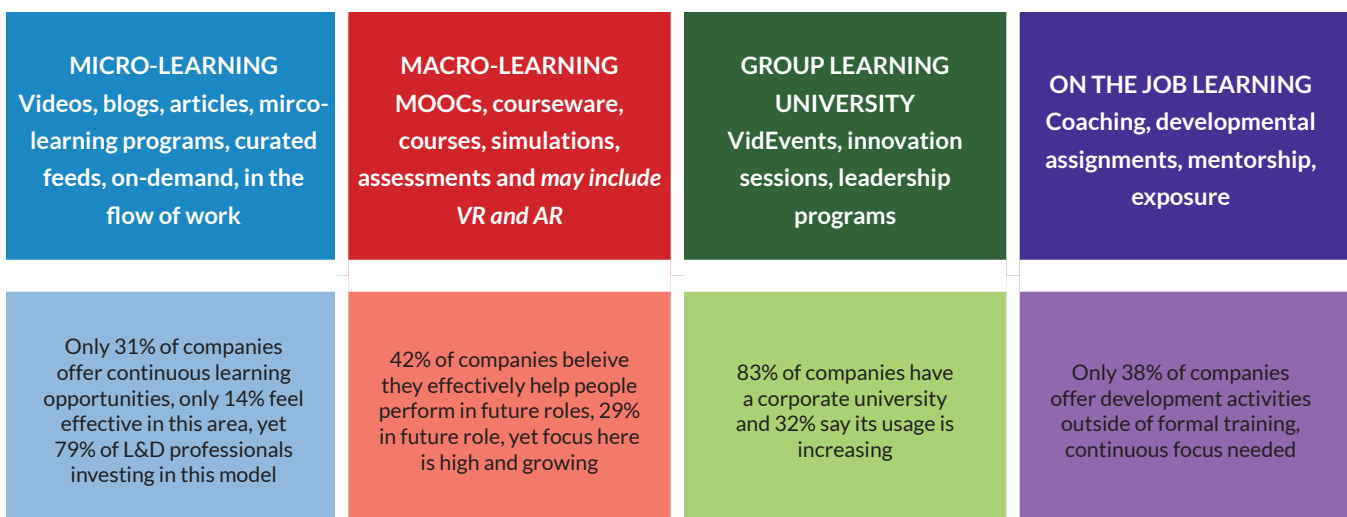


Figure 40: Four Types of Corporate Learning

12. Wellbeing 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 wellbeing.

Driven by the pandemic, the wellbeing market expanded. Not only can companies offer programs for physical, financial, and emotional health, there are now mood trackers, family health programs, family education offerings, and a wide array of solutions for young singles, young families, elder care, and counseling. As stress and anxiety emerged as significant challenges in business, these offerings have become essential.

The Global Wellness Institute²⁸ research shows this is a \$48 billion market segment 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. Companies are shifting from wellbeing as a health benefit to wellbeing as a performance improvement strategy.

The chart above shows some of the many areas included in this enormous market.

It's amazing to me how many of these programs have expanded in recent years. We find in most companies, almost two thirds of employees cite overwork and stress as significant challenges to work productivity. Employers are being asked to deliver a full range of service to help employees stay fit, rested, focused, and healthy.

Digital health services are growing rapidly. Today, more than a third of Americans use digital services for healthcare delivery and more than 80% use digital information services for education, support, and service. The app Zocdoc, for example, is modeled after Uber and helps you find a doctor near you; Teladoc delivers doctor services online; Nurx and Pill Club deliver birth control online; providers like Oscar and Rally Health provide online support; while providers like Clover Health focus on Medicare patients.

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

There is a significant shift in spending taking place, however. Flexible spending accounts (FSAs) declined by almost 8% this year, according to a major SHRM study²⁹, while benefits for new parents (offered by 51% of companies now), standing desks (offered by 60% of companies), group exercise programs (more than 40% of companies offering), and apps for self-directed education and tips (38% offering) went up. You should look at the demographics of your workforce to make sure you're assembling the most popular, in-demand programs.

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

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

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

Financial Wellbeing

In financial wellbeing, more and more evidence shows that workers need help. Vendors like Best Money Moves, EduKate, Sum180, Financial Finesse, Learnvest, Tomorrow, and Daily Pay are helping to fit this need with education, coaching, and individual assessment, loans, and advisory support. A new company Nudge Global actually uses neuroscience 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 has emerged to help companies pay employees weekly, daily, or even based on work completion. Last year ADP acquired Global Cash Card³⁰, 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 redesigning their core payroll systems to facilitate real-time pay.

³⁰ <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 the areas of 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 (sleep assistant), Grokker, ADP's Spark, as well as platform companies like VirginPulse, LimeAid, Provant, Castlight, and many others 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 of 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. Microsoft and Werk now offer tools to monitor our work behavior and give us tips to make us happier and more focused at work. And new tools from Apple, FitBit, and Amazon offer real-time mood monitoring to help you stay fresh and alert at work.³¹

While the market has many specialized solutions, companies also want end-to-end platforms to plug these solutions together such as offered by Wellthy, an integrated wellbeing and employee services app.

³¹ <https://intelligence.wundermanthompson.com/2020/09/next-gen-mood-trackers/>

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 save 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 41: Need for Financial Wellbeing

Telemedicine, Remote Care, AI-Based Support and Coaching

In the areas of 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 by providing a range of AI-matched psychologists and other mental health diagnostics and services. Genentech took its employee assistance program which provides 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 an 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 interesting 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 backache 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 designed to help employees find a dentist and manage their reimbursements. It also offers a new dental plan integrated into its easy-to-use app.

Intelligent Matching Networks

One of the biggest opportunities in wellbeing is the cloud. In every part of the wellbeing market is a network of people who need to be matched to a network of companies that provide services or expertise (see Figure 42). As I get to know this space, I see more and more companies like BetterUp and Spring Health, both of which build AI-based assessments and develop a network of providers who can quickly and intelligently be matched to employees in need.

Historically, these types of networks are typically were used by healthcare providers, but as companies get more and more frustrated with the high cost of insurance, many vendors now sell directly to corporate HR managers. I can see a scenario in which 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.

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 our entire new performance and productivity suite.

If you think about the evolution, it looks like Figure 43. Just as HighGround was acquired by YouEarnedIt, a social recognition company, one could see a market where the wellbeing tools become integrated with goal and performance management



Figure 42: Wellbeing Matching Opportunities

systems, eventually becoming part of the 21st century management platforms. Today the leading platform players in this space are VirginPulse, which has been acquiring adjacent companies this last year; Limeaid, which is a very well run steadily growing company with very successful clients; and Castlight. All 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.

One of the most disruptive new vendors we've talked with this year is League, a well-funded enterprise health platform vendor headquartered in Canada. League calls itself a health operating system and it really lives up to that name. The platform lets companies integrate all their insurance and benefits into one place and gives employee an easy-to-use interface with mental and psychological health assessments and direct access to all providers in a seamless way. There's a lot of complex technology under the covers, but I believe it has the potential to radically disrupt the market because of its data-driven open architecture.

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), and Workday has provided API integrations to VirginPulse and other vendors.

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 monitoring³² and almost 75% 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 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 now 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.

³² <https://www.bbc.co.uk/news/business-45214424>



Figure 43: Evolution from Wellbeing to Performance

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; the average HR manager 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 is focused on this need is League, a well-funded health and wellbeing platform. League brings together insurance claim history, many wellbeing offerings, and self-assessment tools into an integrated corporate solution to help HR and finance manage the entire healthcare and wellbeing spend. It's a relatively young company and one I expect to grow.

Another example of this is BenefitFocus, a technology and broker network that has built an integrated search engine for more than 200 different benefits and wellbeing programs. BerniePortal offers a similar offering. HCM providers like Quickbooks, which handles payroll for hundreds of thousands of small businesses, uses this type of technology to help people find the benefits they need. Zenefits originally tried to do this as well and after 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.

13. 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 (25% of companies are hiring into this role³³) and our HR Capability Assessment shows it to be one of the highest priority interest areas among HR professionals around the world.

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

33 Sierra-Cedar 2019-2020 HR Systems Survey

Growth of AI

A few years ago, AI seemed like some kind of black magic feature companies were hyping. 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 this simple but profound image in Figure 44.

What this 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.

In AI or machine learning, the opposite happens. The system starts with a set of data, it studies the data and finds patterns, 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.

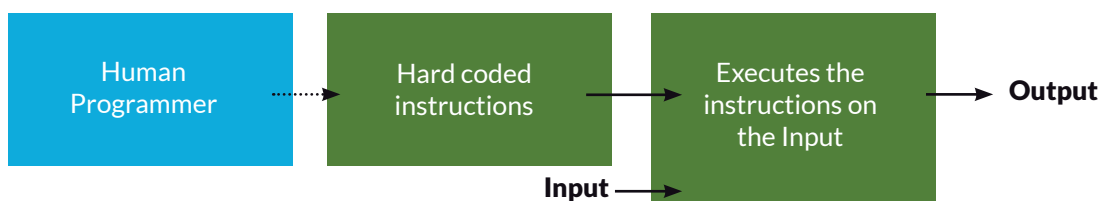
These types of algorithms are now built into HR platforms, so more and more of the systems you buy are getting smarter. As this diagram clearly shows, they're dependent on data, so if your systems architecture is fragmented, you're going to have all sorts of prediction and recommendation machines all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

Greater Demand with New Use Cases

The evolution of people analytics goes back to the HR data warehouse and the single system of record for employees, which almost no company has ever achieved. Today, as the pandemic continues, this problem has become even bigger.

Now companies need to look at job roles during transformation, travel schedules, work locations, and family situations. Lay this on top of maps, virus outbreaks, and many other factors. In fact, there are hundreds of intersectional data elements about people at work, each of which has to be used for real-time analysis at different times.

Traditional Programming



Machine Learning

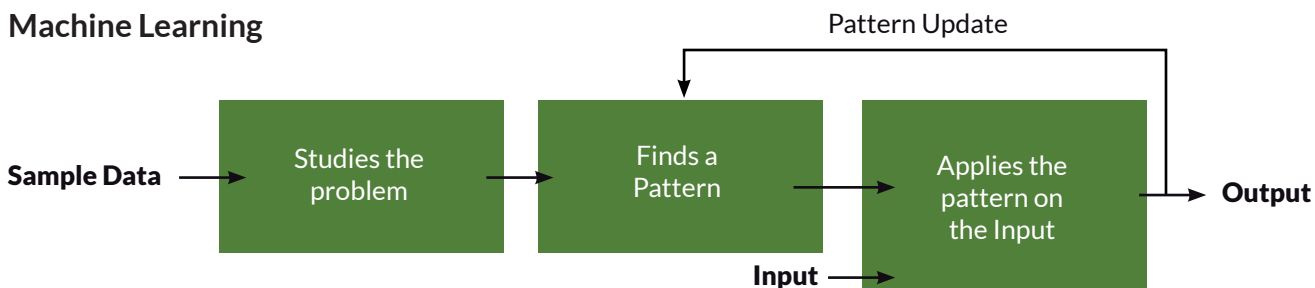


Figure 44: Deep Learning with Python, Francois Chollet, Manning Publications, December 22, 2017

For example, suppose you have a virus outbreak in an office. You will want to know who worked there that week, what meetings people were in, and their various travel and other meeting schedules.

Suppose you had a sexual harassment or racial bias claim. You now need a whole tapestry of data, including hiring practices from the manager, feedback from others, and pay data to understand if the problem is a pattern or a one-time event.

This year we've had more types of data. Almost 40% of employees got a new job, new project, or new manager. And as employees are working at home, we have data about their email usage, time online, and other data to assess.

In the learning market we are seeing an explosion of learning data about content utilization (stored in the learning record store), VR training, skills gaps and skills attainment, and of course badges, scores, completions, and various forms of capability journeys. And the list of applications goes on and on.

One large oil company, for example, was going through a downturn this year and needed to assess all the contractors and part-time workers in the company. This data needed to be merged with management data and budgets to decide which groups should reduce contractor hire – not a simple problem when the company has hundreds of teams in more than 80 different countries.

Almost every company leader we talk with tells us better analytics skills in HR are needed.

But this is a work in process. In the last research I conducted among larger companies, we found that almost 75% of the larger companies we surveyed are in the process of building an integrated people database for analytics. The 40% or so of companies that now have cloud-based HCM platforms already have their core data in an integrated place, so they are typically working to integrate 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 such

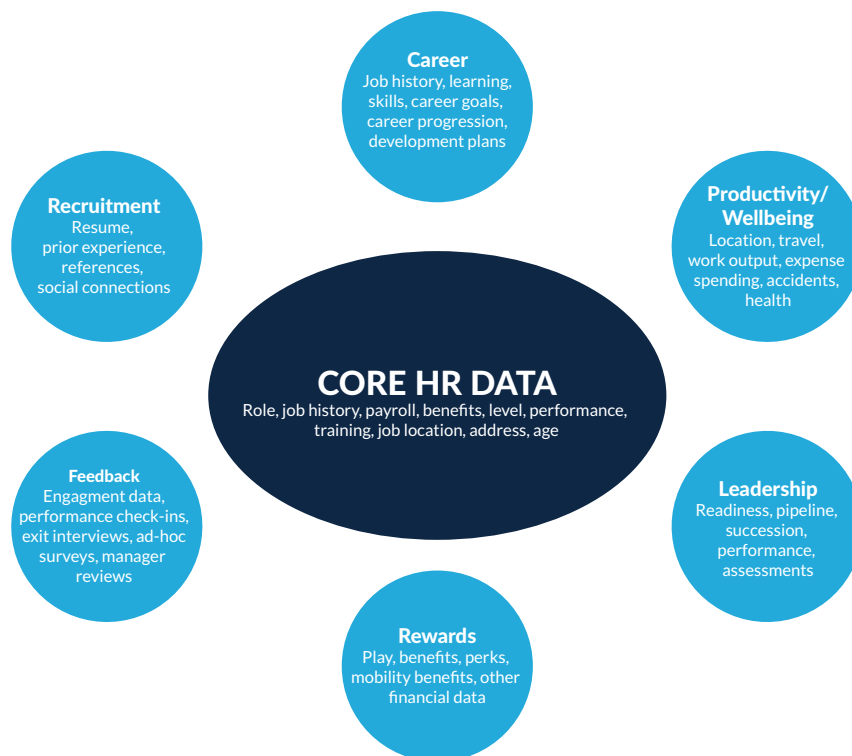


Figure 45: Types of People Data to Analyze

as 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.

In 2020, we greatly expanded the role of people analytics to include attestation, virus outbreak data, travel data, and location data. S&P, for example, now has an employee and contractor app that tracks location and badge information, so an employee can schedule a desk, go to a facility, and safely meet other people – all tracked in case of virus outbreak. The system even schedules a private car pickup, helps with travel planning, and constantly updates information based on local virus activity and regulatory change.

This leads to the question of privacy. The question companies typically face is “how far should we go?” As I show in Figure 45, there are literally hundreds of data elements we can analyze in the analytics or talent intelligence system.

Moving Beyond Traditional Data

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.

Figure 46 shows growth of interest in graph databases, semantic analysis, and knowledge graphs³⁴.

What this shows is that data scientists, the true professional experts in 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 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 an analytics initiative may or may not start in HR, but whatever its origin, it will need to be integrated with other enterprise systems so employee data can be viewed in conjunction with financial and customer data as appropriate.

I recently talked with the head of employee engagement at United Airlines who said that the company has not only

34 <https://towardsdatascience.com/building-the-future-of-data-science-d5587a402e42>

Interest over the last 5 years on sematic technologies

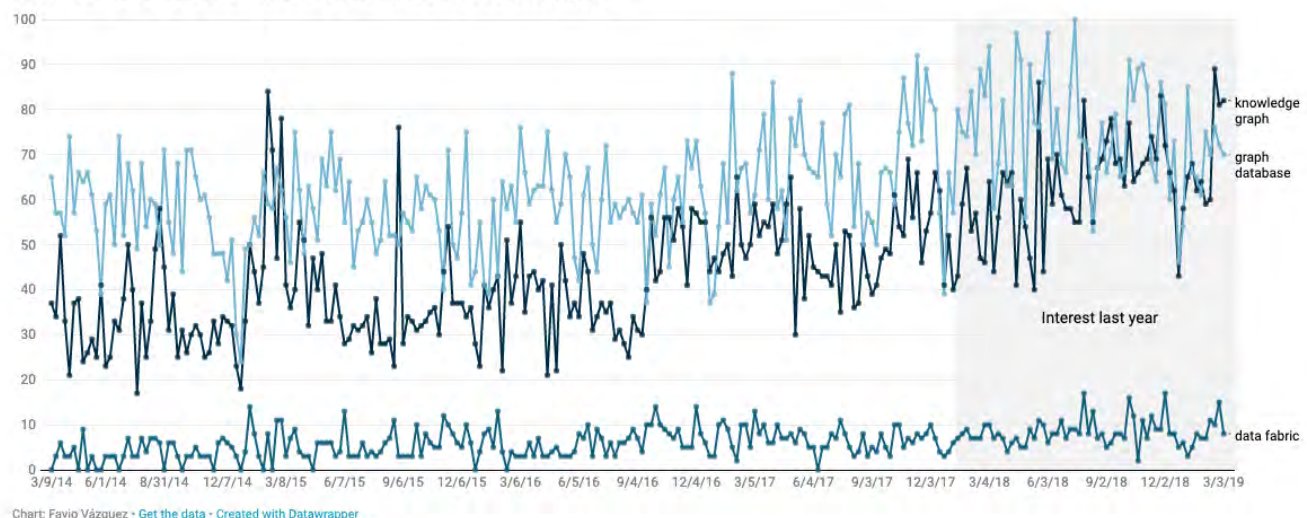


Figure 46: Interest in Sematic Technologies over Recent Years

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. This insight was discovered only because someone correlated employee engagement, retention, and on-time departures by city and team.

Augmented Analytics and Workday People Analytics

In 2017 Workday acquired a company called StoriesBI, which developed a technology now called augmented analytics. This software combs through large data sets, looks for anomalies based on different criteria, highlights the variation, and uses natural language processing to create an English language explanation.

For example, the system may find that “the Northeast sales region is 33% behind the sales average in female leadership population.”

Workday has been integrating this technology into its platform and introduced Workday People Analytics in Fall 2019. In my decades of reviewing analytics systems, I found this new offering to be one of the most useful and end-user focused solutions in the market.

Workday has been working on this product for many years and it offers all the customization, data dictionary, and end-user access you probably need. And the company offers its own spreadsheet tool and discovery boards so that any point in the process, a data analyst can dig in and evaluate the data, create a spreadsheet, or export the data to PowerPoint or Excel.

Augmented analytics (sometimes called narrative analytics) follows a new technology trend in which tools find anomalies through machine learning and use natural language processing to explain the anomalies, and then create useful output. Salesforce is working on this through its Tableau acquisition, and Google’s acquisition of Looker is also focused in this area. I recommend Workday customers look at these offerings.

Visual Analytics, Organizational Analysis, ONA

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

ONA has been around a long time and up until recently primarily used by consultants. ONA-based solutions help us understand the nature of work-related relationships, the trust between people, the types of conversations taking place, and ongoing collaboration. Microsoft now offers much of this functionality out of the box in Office 365, and many vendors are building it into their platforms.

ONA tools can use surveys or email metadata from Outlook or Gmail. The tools can also look at communications through feedback and messaging apps like Slack or Teams. All this data forms a graph of relationships. When viewed carefully, you can find amazing things, such as the examples below:

- One company found that those sales teams that delegate more pricing and configuration responsibility to sales reps outperform teams in which reps spend more time talking with their sales managers.
- Another company found that senior leaders who micromanage 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 its highest performers have larger more diverse networks and also send more messages of shorter length.

You can now buy/implement ONA off the shelf from vendors like Panalyt, Galaxy Science, Keen, Syndio, Polinode, Worklytics, Humanyze, Innovizer and others, or 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 and stress in emails among teams who were involved in creating 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 versus external meetings. And it gives each individual a personal dashboard to help you make yourself more productive.

United Health Group has now built its own graph database to analyze customer service and call center interactions and is identifying 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, created by Cambridge Semantics, is an off-the-shelf knowledge graph platform built on a high-performance graph database engine. 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 all elements together with a variety of best-of-breed products. This means you must partner with IT as your people analytics strategy matures.

Organizational Analytics and Modeling

This year almost every company went through some form of massive reorganization. How did these companies figure out who to let go, who to keep, and who should go into which job? In most cases there were hundreds of spreadsheets and whole lot of guessing.

Thanks to tools like SplashBI, Nakisa, Charthop, OrgVue, Visier, Galaxy Sciences, and Panalyt, you can now visually model your entire company and link this view to real data in your core HR systems. Nakisa, the pioneer in this market, actually assesses data quality in its modeling tool, based on consistency and timeliness, so you can see how accurate the model actually is. Once these tools are connected to your back-end systems, you can create what-if models and quickly look at many variables by organizational unit, function, geography, or hierarchy.



Figure 47: ONA and Relationship Analytics

Consider data related to diversity, turnover, pay, tenure, job mobility, and skills – all relevant during a reorganization but residing in different places. With a good organizational analytics tool you can view the data by group, then model the change and see if you accidentally create a group with all senior people or all White people or all hourly people. This is a huge market, and this year it has accelerated thanks to the pandemic.

Panalyt, a relatively new player in this space, actually shows relationships and can score strength of reputation and engagement between parties. This type of tool can help you identify experts, knowledge networks, and team dynamics. Studies can show that span of control, management empowerment, and other managerial strategies have direct impact on business results – once you see what’s going on.

NLP and Chatbots

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.

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. This year CultureAmp introduced a product called Amplify that teaches people through chat interfaces (I call it conversational microlearning), and I am actually experimenting with a tool called arist.co that lets you build chatbot learning right out of the box.

Some of the key NLP vendors include:

- Mya, the leader in recruitment chatbots. Mya pioneered the natural language conversations and modelling 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, and Xor.ai is another vendor focused on recruitment.

- Phenom People, Allyo, Avature, 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, Ultipro 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.

In our discussions with one of the NLP experts at MIT, he explained that we need to develop a set of topics and terms (three- to five-word phrases) that the NLP can recognize and understand. For example, if your NLP identifies a conversation about “vision” in your company, it could be related to vision coverage under insurance or the vision and strategy of the organization. The NLP has to be trained to understand and differentiate these contexts.

Your analytics team should have someone digging into NLP and talking with vendors who specialize in NLP used for recruitment, screening, HR service delivery, or other domains.

Integrated HR Analytics Platforms

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

Large companies will likely 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 it very useful. However it's usually not enough, because it doesn't accommodate data from all the other sources mentioned earlier.

When you see analytics showing that turnover in the Minneapolis office is 25% higher than other locations this quarter or diversity measures in sales are 10% higher than in manufacturing, you will want to know why these variations occur. So having an open architecture is important, and this is why companies buy Visier, SplashBI, ChartHop, OrgVue, Nakisa, or use Excel, Tableau, Microstrategy, Looker, Birst, or others.

Incidentally, since we are now so focused on pay equity, diversity, and fairness in job progression, 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. The challenges of analytics actually are issues related to data management, governance, organizational design, and skills. There are a few things you must get right:

- You have to do a lot of data exploration to find all the sources of employee data in your company and create an accurate data dictionary defining all data elements. This is quite an important project, and it lets your analytics team 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. 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 guard against

false assumptions or over-predicting what the data may imply.

- You need to set up a process for working directly with the business (many companies have analytics business partners) so you can work on the problems your business leaders care about. It is not a good idea to just explore data for interesting information. Focus on the high-priority problems business leaders care about.

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. The HR professionals embedded in business units (perhaps the most important role in HR) have to be familiar, trained, and comfortable with data. They don't need to be statisticians, but they do need to identify and focus on the right problems, determine the data needed, and then tell stories and create solutions based on what the data says.

Market Confusion: How to Evaluate Vendors?

Perhaps the biggest trend 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 five key issues 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. Do lots of pilots and let people try to use the 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 resources; 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 even tell you that their product doesn't meet your needs.

3. Does the vendor have referenceable customers like your company? I continually coach vendors to pick their core market (i.e., SMB, mid-market, enterprise, global, industry niche) because the marketplace is so huge and they can quickly get spread too thin. If you can't find three to five customers just like your company currently using a vendor's product, then you are going to be a de facto pilot customer. 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 should talk with a true product manager, not a technical sales evangelist. You should have your HRIT architect or functional HR manager ask this person probing questions and to assess how deeply they understand the domain you want them to cover. Such conversations 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 a long-term, positive track record in leadership, finance, and culture? All of the successful HR tech vendors I've worked with have many strengths that go well beyond the product. They have senior leaders who focus and bring passion for the business and its customers; they have some aspect of financial strength (and if they're profitable all the better); they have a strong and enduring culture; and their sales and service people are happy and well trained.

It's important to realize that vendors vary very widely in customer satisfaction. This year's Sierra-Cedar study shows some vendors with no "very satisfied" customers and others that have almost no "unsatisfied" ones. The vendors most successful are those that are highly focused, have strong leadership, and haven't tried to spread themselves too thin.

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 on you to validate whether a given product or company will work.

I have become good friends with one of the senior MIT faculty who runs the CultureX company, a team that has been assessing Glassdoor comments to understand company cultures.

I have become good friends with one of the senior MIT faculty who runs the CultureX company, a team that has been assessing Glassdoor comments to understand company cultures. When I analyzed data for HR technology companies, I could see big variations in areas such as customer focus and execution.

Certainly, such ratings shouldn't be a sole determining factor in vendor selection. My point bringing this up is 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 using conversations with reference clients and discussions with company executives as important criteria in making any selection.

	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 platform, 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

Wrapping It All Up: HR Tech Integral to HR

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 issue is managing all this technology in the most effective, streamlined, and efficient way.

If you sum up all the challenges we face, the overall strategy 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 the 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 spend valuable time learning how to use it, we won't gain as much value. This is what HR in the flow of work is all about.

In essence, the technology market is shifting from technology that is viewed as a "have to use" and interrupts daily work to technology that actually makes work better for employees.

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 interactions at work. Just as consumer software companies have to compete with thousands of apps and websites when they try to get our attention, so must HR systems compete with many other work-related activities to gain our time.

I think we are in one of the most exciting and transformational times in this market. We have shifted well beyond systems of record and systems of engagement, and we are in an era where HR systems are truly systems of productivity. (Although there will never be one system that does everything; the average number of systems of record used by a company 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 17 years I've written this report, I continually learn from you. Please contact me with your feedback, opinions, and stories so I can continue to share with the entire global community.

Josh Bersin



Appendix: Background on the HR Technology Market

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 to me!” In this section I’ll try to help you sort that out.

The Major Market Dynamics

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 pandemic and continued economic growth, a very tight labor market for hourly and salaried employees, and a tremendous need to upskill, reskill, and reinvent our skills, the HR tech

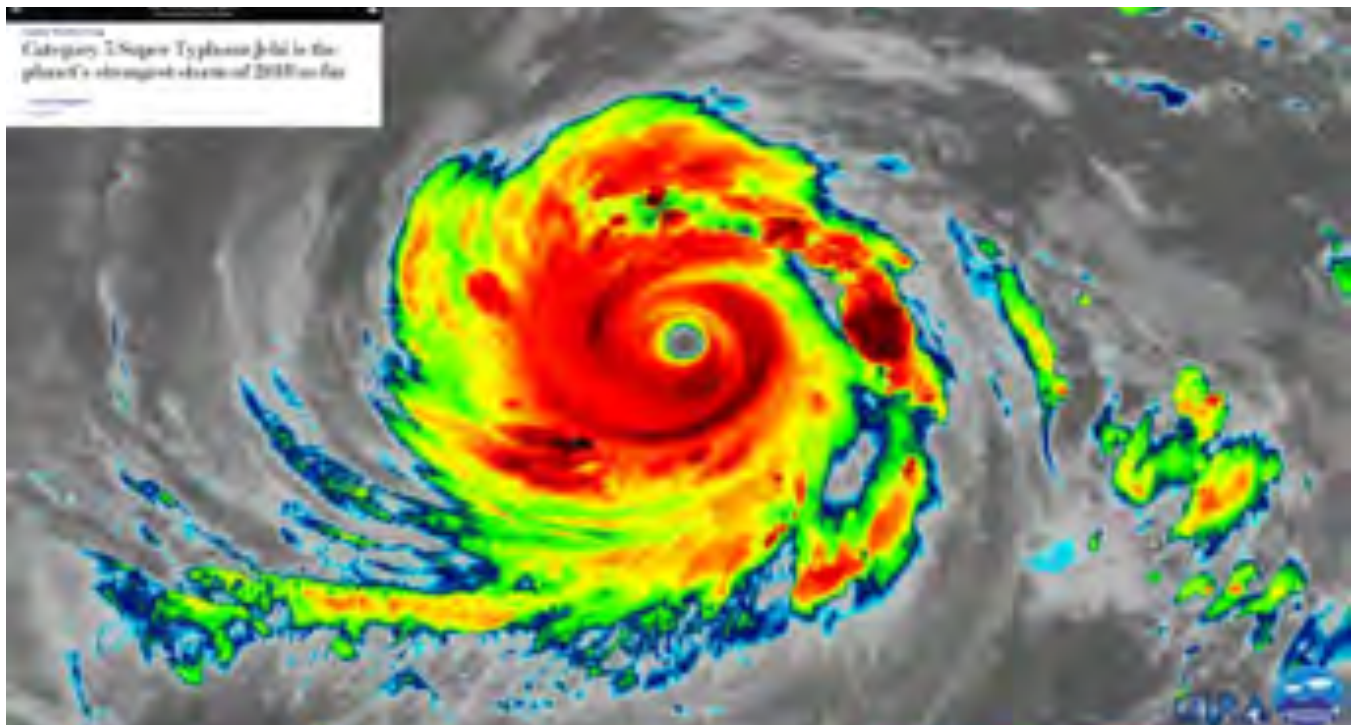
market is growing at an explosive rate. Add to this the fact that AI, advanced analytics, sentiment analysis, chatbots, and cognitive tools are now in production – and you have a typhoon that’s growing faster and very hard to understand.

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; many of us 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: 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 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 Organization³⁵ estimates that there are approximately 3.3 billion people working around the world (2 billion men, 1.3 billion women), and this number grew by almost 7% last year. Of that group, they distribute accordingly as shown above

³⁵ <https://www.ilo.org/global/lang-en/index.htm>



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

According to the Sierra-Cedar study of HR technology usage³⁶, 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 told us they were increasing their spending, 42% were staying steady, and only 4% were decreasing. Of this spending, the fastest growing areas were 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 going up. In 2017's survey, large companies had an average of seven HR systems of record; this year they have more than nine. 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. Venture capital firms and private equity firms have invested more than \$19 billion in startups and new ventures over the last five years³⁷, 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.)

When businesses stop this rampant spending on HR, we will see an enormous amount of consolidation – and I'll discuss that later.

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 market for buyers and investors, I lay out 12 major categories in Figure 49.

Core HR and Payroll

Every employee, contractor, or gig worker has to be paid. 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, CloudPay, and other big companies. But during this economic cycle, we are also seeing dozens of providers focusing on small businesses, including Paychex, Gusto, Paycom, Intuit, Paylocity, Namely, Trinet, Zenefits, Sage, and many more. 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

³⁶ Sierra-Cedar HR Technology Study <https://www.sierra-cedar.com/research/annual-survey/>

³⁷ CB Insights proprietary data

are a global company, you will most likely use multiple payroll providers, including local providers for 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 what we call 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 it calls FlexPay 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 brand 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 (i.e., accounts for vacation savings account, taxes, mortgage payments). 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.

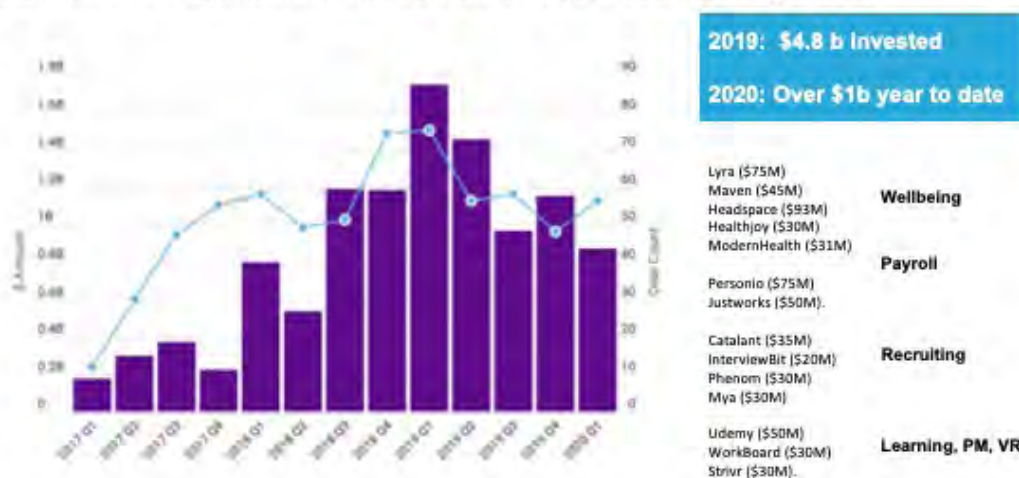
Core HR, the software that manages employee records, job history, performance, training, and other demographics, is also a critically important part of this segment. It is nearly impossible to run a company without some HR database, so

these systems are used by millions of businesses. They are also very complex applications because they must manage the company business structure, they must hold many forms of employee data, and the more advanced systems (Ultimate Software, Gusto, HiBob, for example) provide manager-level dashboards to help managers understand all the issues on their teams.

In the 1980s and 1990s, these systems were back-office IT applications and employees rarely saw them. Since the birth of the cloud, they have now become employee-facing systems. The most popular ones are as easy to use as a social network. Vendors of talent management software (Cornerstone, Saba, 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 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,

\$16.0 Billion in Investment in HR Tech Since 2009 (3,218 companies)



Source: #HRWins

Figure 48: Massive Investment in HR Tech

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 many companies continue to buy best-of-breed systems. As the pace of innovation continues to quicken, I expect this trend 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.

All these features shown in Figure 50 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. I won't detail these issues here, but many leaders tell me their core HR system does not adequately model the way they operate, so in some ways these are existential topics. This is why ADP is building an HRMS based on a graph database, Workday's architecture is network-oriented, and other vendors are trying to adapt rapidly.

Because of all this change, the Sierra-Cedar research shows that 28% of all companies are planning on replacing their core HRMSs this year, an enormous number. While it is slightly down from last year, this represents a tremendous movement to cloud-based, integrated platforms. Those upgrading have used these systems for approximately 8.5 years, so they are



Figure 49: Twelve Major Market Categories

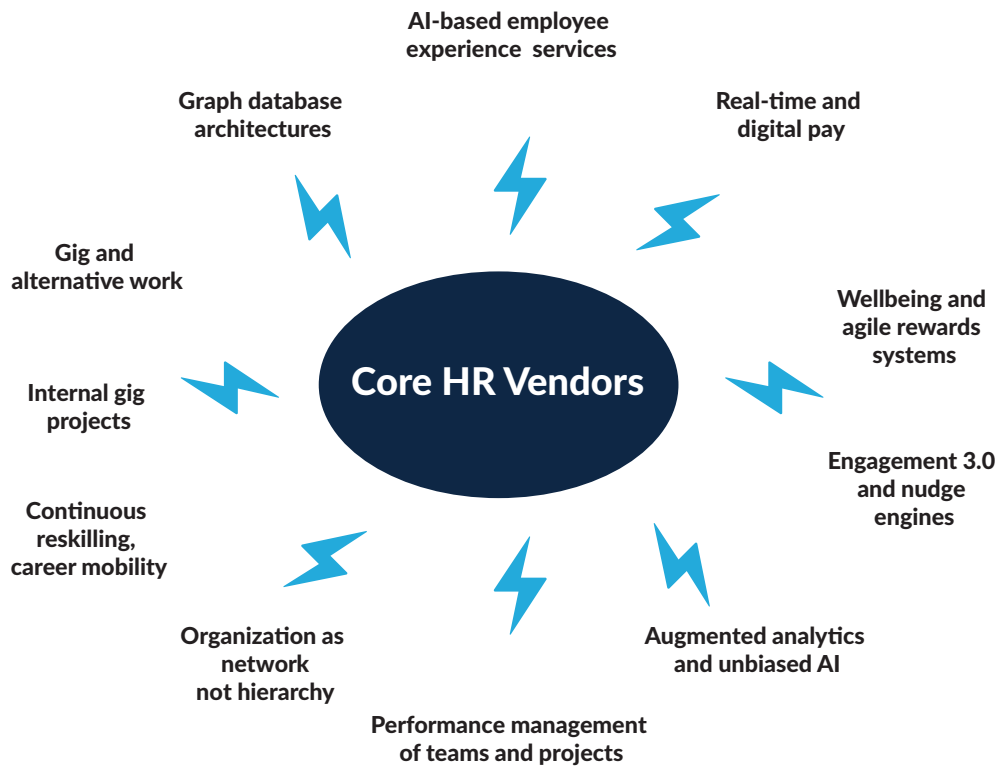


Figure 50: Disruption to Core HCM Vendors

often at the end of their useful life. The features that often drive these upgrades include cloud, AI-based analytics, chatbots, 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 areas 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 HRMS

- Shift to network-based team models and new organization structures
- Embedded analytics and augmented analytics
- Attempt to build ecosystems, because of inability to keep up with talent management tools.

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 new offerings from PhenomPeople, and others – all of which deal with all the employee-service management issues companies face. While most of these self-service portals used to be included in the core HRMS systems, they are now independent products and growing very rapidly.

We used to buy self-service portals from the HRMS vendor, but today the heterogeneous nature of HR systems makes this difficult. 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 sometime in the future. ServiceNow already has almost 1,000 HR customers, and I expect its growth to continue.

The explosive growth in 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, chatbots, 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, meeting people relevant to your job, and getting you trained. The company has built an entire experience design tool and a service delivery dashboard explicitly for these employee experiences. ServiceNow (and other new tools) can integrate HR, IT, finance, and logistics into a workflow-enabled toolset unlike onboarding apps in HCM systems. (There are vendors who focus exclusively in the onboarding area, including Silkroad and ZingHR.)

Pay and Rewards

As I discussed above, the pay and rewards market is exploding in several dimensions. First, there are now dozens of companies that provide rewards to employees in the form of gifts, social recognition, or other 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 deploy the apps and use the tools for pay, rewards, recognition, and other forms of 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 Watson, and AON Hewitt continue to sell compensation planning and data solutions. 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 behind other talent strategies. The research I conducted in 2018 found that only 11% of respondents believed their pay practices were fully in line with their companies' business strategies. Payscale's 2020 study of compensation practices found that only 41% of employees think their companies' pay practices are good. Consider this frustrating 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



Figure 51: Evolution of Employee Self-Service

The problems? Pay systems are not holistic enough, they are not customized for individual needs, they are not revisited frequently enough, and companies do not always do a good job of communicating why pay is set at given levels.

Given that more and more data about pay has become transparent (ADP, LinkedIn, Payscale, Glassdoor, and many other providers now crowdsource 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, an area dominated by Kronos. Today, there are gig network vendors (who are actually marketplaces for gig workers) and gig software providers who sell tools.

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 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. This is now an essential part of human capital management platforms.

Integrated Talent Management

Integrated talent management software was the rage around 2010, but it 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, recently sold to Learning Technologies Group, is a good example). 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 offered by their core vendors.

Talent Acquisition

This marketplace is over \$200 billion in size overall, 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. It 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 (products like SmartRecruiters are capable of enterprise-scale functionality now) and most new companies buy recruitment software from one of the smaller new vendors (Greenhouse, Lever, JobVite, PhenomPeople, and others).

The big new players today are Avature, Eightfold.ai, PhenomPeople, and new offerings from Oracle, Workday, and SuccessFactors. The ATS market itself is almost a commodity market, but these advanced AI platforms are much more sophisticated.

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. This 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 is shopping for these tools because their core ERP vendor has 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 that buy a new performance management tool later realize that the system needs a complementary 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 (which is happening at a fast pace), 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 chatbots for learning. Given that global 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 the LMS as one of the important parts of the architecture. Learning management systems still play an enormously important role in this market but as more platforms collect data about learning (LXP, micro-learning platforms, video and program management platforms), 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 all said, I believe the percent 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.

Corporate Wellbeing

The \$48-plus billion market for these 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 who offer psychologists, medical specialists, coaches, mentors, and other forms of wellbeing.

I've recently talked with a series of leaders who say that one of their challenges is that they are doing too much when it comes

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

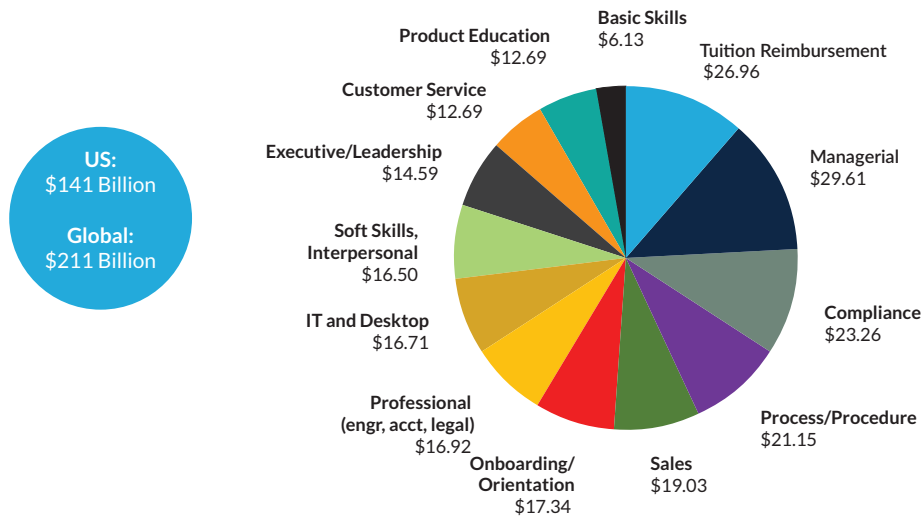


Figure 52: Corporate L&D Market Size

to wellbeing programs. There are so many vendors selling so many products, we keep filling up our shopping basket with more and more items. Based on my research and discussions with dozens of leaders, let me tell you this is not where the market is going. While many of these smaller providers will develop niche products and grow to a degree, companies do not want 90-plus wellbeing programs (Deloitte, last I checked, had 97 offerings). They want a curated and designed set of programs that meet the needs of their key workforce segments.

The HR leader of a large beverage manufacturer, for example, showed me how the company's sales people, who typically travel extensively, used almost none of the programs developed for other office employees. However, sales people urgently wanted exercise and fitness advice suited to those who sit in cars or airplanes 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 their employees really want before buy solutions. Last year, an HR leader in Romania told me she found that 80% of her company's wellbeing solutions were not widely

used. So she did surveys and lots of interviews and redesigned what she now offers.

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 needs of various groups in focused and effective ways.

And let me add that the market for financial wellbeing tools, education, and digital pay solutions is growing very rapidly.

Diversity and Inclusion

D&I is now a technology category. Almost every recruiting platform 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 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 unbiased

ways 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, Noirefy, and many others which I believe will grow rapidly focused on this entire focus area

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 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 which 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, and 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 that have their own apps. All of these disruptions support the trend of HR in the flow of work. As Facebook starts to market and sell Workplace, the company's collaboration and team management platform, I foresee more and more HR vendors building plugins to its environment. This will be the future.

This also begs the question of what happens when tools like Trello, Basecamp, Asana, and the many other hundreds of team management tools become widely adopted in companies. These team productivity systems make up a multi-billion-dollar market. Whether you buy Microsoft Teams, Slack, or another system, these tools are ultimately great places to learn, develop goals, give feedback, and develop chatbots 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.

Recently the head of HR for one of Europe's largest retail distributors told me her company put its entire suite of HR technology into Salesforce. She and her team 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 17 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, help 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. 2021 is going to be an exciting year in HR technology, and I look forward to helping you continue to understand it all and bring value to employees and organizations around the world.

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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 2018.

In 2019, Bersin founded the Josh Bersin Academy, the world's first global development academy for HR and talent professionals and a transformation agent for HR organizations. The Academy offers content-rich online programs, a carefully curated library of tools and resources, and a global community that helps HR and talent professionals stay current on the trends and practices needed to drive organizational success in the modern world of work.

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 800,000 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.