

HfS Blueprint Guide: Predictive Capabilities in HCM Systems

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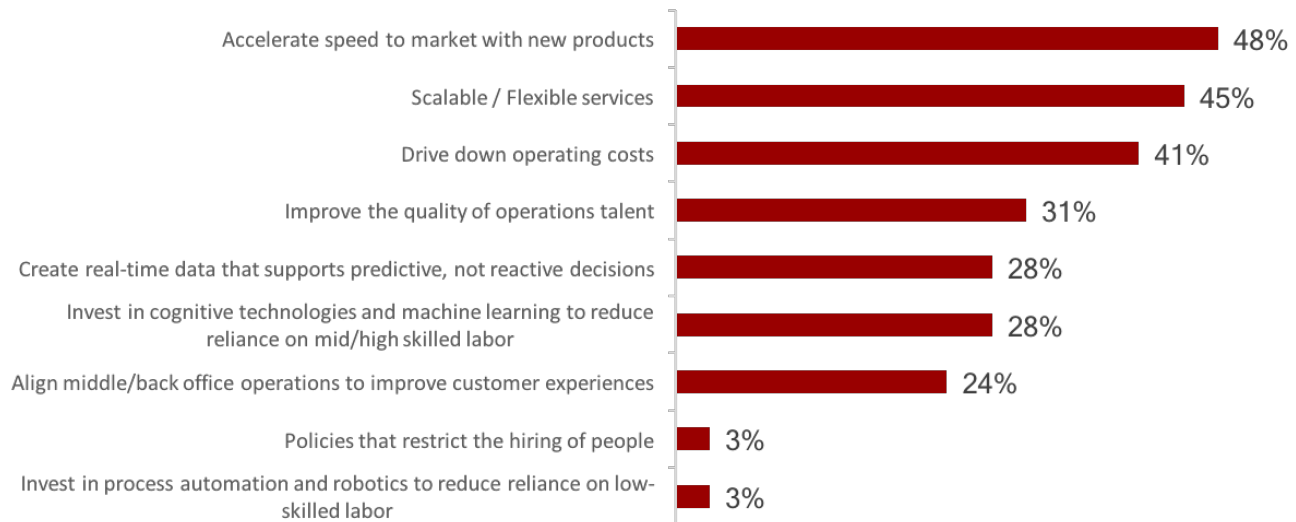
What You Need to Know About Predictive Capabilities in HCM Systems

Now that solid progress has been made on the social, mobile, and cloud fronts within the HR Technology domain, people analytics, and specifically predictive analytics or “bringing science to human capital management (HCM)”, has become a great candidate for in-depth analysis. There are also some interesting and perhaps not-so-obvious or well-known dynamics pertaining to the adoption of these capabilities by customers, and around the investment in these capabilities by enterprise HCM Software (or HR System of Record, HRMS) providers. These dynamics include the following:

- » **Many vendors and customers are playing a waiting game:** HfS Research believes there are three main reasons: (1) Both parties want to see more signs of return on investment (ROI) as these potential investments (from either side) are typically not modest. (2) There is change and innovation overload, or perhaps too many changes to absorb at once. These changes include the shift to the cloud, leveraging social media and social computing in HCM, as well as new cognitive and artificial intelligence (AI) capabilities in these systems that show considerable promise, plus the regularity of other types of HR transformation initiatives within organizations. (3) The European Parliament’s shake-up of data protection laws (European Union Directive 95/46/EC) aimed at giving citizens more control over their personal data, in addition to harmonizing country-by-country data privacy regulations. Compliance will be required and enforced by mid-2018. As always with complicated regulations, interpreting and then operationalizing the changes are “cause for pause,” so to speak.
- » **Solution providers want speed and scalability:** As reported in HfS’ soon to be published “State of the Outsourcing, Shared Services and Operations Industry Survey” and shown below, software industry executives view speed to market and scalability as mission critical. Clearly, the decision to productize a predictive capability set does not flow naturally from these business goals, irrespective of the potentially compelling business benefits to customers.



Exhibit 1: Software & Hi-Tech Thought these C-Suite Directives Were Mission Critical



Source: HfS Research in Conjunction with KPMG, “State of Operations and Outsourcing 2017” Sample: n=454 Enterprise Buyers

» **Identifying employee flight risk was the first predictive HCM capability for many HCM Systems vendors, but other exciting use cases are now being brought to market:** The logical reasons for the popularity of retention or flight risk among HCM vendors include the following:

- (1) The business case for vendors and customers to invest in this “intel” is very compelling, as most industry benchmarks conservatively put the replacement cost of key employees who voluntarily leave at one to two times their compensation. This benchmark is generally conservative. Although it often reflects search fees and temporary productivity dips, it doesn’t usually factor in other potential business risks, such as losing key customers or other key staff or delayed progress on initiatives.
- (2) The risk of being wrong is not that severe or consequential, either in the form of “false positives” (identifying someone as at-risk who isn’t) or “false negatives” (missing someone at-risk who then leaves). Having a coaching session with an erroneously identified at-risk employee is neither disruptive nor costly; and not identifying a handful of at-risk employees beforehand often leads to the adjustment of HCM practices.
- (3) Factors that contribute to employee retention risk do not vary much from organization to organization, for example, a perceived unfavorable change in compensation or benefits plans, a new line manager, excessive change or uncertainty in the operating environment, a longer commute to work, or slower-than-expected or promised career progress. The similarity of factors



means that the time, effort, and money to develop and then “tune” algorithms (the predictive engine) are much more manageable.

The following chart captures various examples of predictive HCM use cases, some of which HCM solution providers and customers might consider investing in. Based on our many conversations with both sides of this investment equation, and as depicted, it’s easy to see why predicting flight risk has been so popular with early adopters.

Exhibit 2: Predictive HCM Use Cases – Illustrative Examples

Predictive HCM Use Case	Potential Impact	Algorithmic Difficulty	Consequences of Being Wrong (10 = Worst)
When are academic achievements and caliber of university more predictive of job success than relevance of previous work history?	Medium	Medium	4
Which key employees are retention risks?	High	Low	5
Which factors are most important in compressing “time to full productivity” in different roles?	Medium	Medium	4
Which factors are most important in determining potential leaders?	High	Medium	7
What is the likelihood of deal success given two companies in a potential M&A transaction?	High	High	9
What is the optimal timeframe to incur staff redundancy costs after an acquisition to mitigate potential business risks?	Medium	High	5
How many successor candidates are the optimal number for different types of roles?	Low	Medium	2
When should we fill a staffing need with a contractor, internal transfer, promotion or new hire?	Low	High	3
What span of control is too high in different key roles?	Medium	Medium	3
Which training programs will have the biggest ROI?	High	Low	5
What are reliable indicators of employee safety risk or compliance risk?	High	Medium	7

Source: HfS Research 2017

- » **Bigger customer and product footprints are not a panacea when it comes to bringing product innovations to market:** Yes, these usually correlate with additional and more substantial sources of revenue for enterprise software companies, but bigger footprints also imply additional potential priorities across which to spread finite operating budgets. These priorities include R&D budgets, account management and customer support resources, sales and marketing spends, plus the

continued funding of current entry-level products in order to achieve more competitive or even market leadership ranking. It's a simple case of not being able to make every product area a priority every release cycle.

Then there is the old axiom that larger players are typically not as agile. When true, this axiom is partially due to a more complex and broader change process. However, investing in emerging capabilities (before there are many proof points about revenue or adoption) is often justifiably superseded by preventing the “negative multiplier effect”: Losing one customer probably requires five or more new customers to offset the loss, as the competitor that wins over that customer often captures away more market share if promoted well. Customers love displaced vendor examples. This dynamic often influences vendors to prioritize long-standing customer issues or complaints over responding to newly identified innovation opportunities.

- » **The so-called second tier is sometimes the first tier:** The Big 3 in the HR Technology domain by market share—all HRMS players vs. Talent Management Suite or Point Solution vendors (namely, Oracle, SAP SuccessFactors, and Workday) currently lag behind several other HRMS providers with far less capitalization. As shown in the Market Grid within this report, not only did Ultimate Software, Kronos, and Cornerstone OnDemand score better on the Innovation and Execution criteria we associated with predictive HCM capabilities, but also several lesser-known HRMS vendors by comparison (Infor, Ramco, and Unit4) were evaluated as close to the Big 3 on these capabilities. Finally, there's often more acquisition activity across the larger players, which requires significant attention and resources to integrate acquired assets (people, products, and customers) effectively and quickly, something for which the industry as a whole hasn't always earned high marks.

About This Blueprint Market Guide

The primary audience for this HfS Blueprint Market Guide, as with most HfS research-based guidance, is the buyer or customer community. That said, HCM solution vendors should also derive value from the information shared, including solution vendor profiles, key themes, and implications, how we placed the group of nine vendors covered in the Innovation and Execution Grid, and what we can expect in this space going forward.

We use the Blueprint Market Guide approach (vs. a more detailed analysis of capabilities and customer business issues) when the area we are covering is new, most providers are only at the beginning of their solution maturity cycle, and most end-customers are still figuring out what their strategy should be. Predictive HCM capabilities unequivocally fits the bill. Additionally, in our Blueprint Market Guides, HfS emphasizes a solution or services provider's commitment to, and early execution of, relevant product



innovation. The resulting business impacts on buying customers, and their potential challenges in deriving business value, are also given significant attention in these research efforts.

The scope of this Guide is HR Management System (HRMS) platforms or HR Systems of Record, and their providers. Thus, we did not include vendors that specialize in one area of HCM or specialize in analytics. Comparing an analytics vendor or niche Talent Acquisition software vendor with compelling predictive capabilities to an HRMS vendor does not make much sense, when the latter's product suite has a much bigger and broader mission: serve as an enterprise's main source of people data.

Finally, although HfS coined the term "As-a-Service Economy" to originally refer to services providers leveraging such elements as on-demand operating models, enabling technologies, design thinking, intelligent automation, and real-time analytics to drive material business outcomes, you will also see the As-a-Service moniker in our software products evaluation grids. Many of the same core ideals that pertain to modern services companies are also critical success factors for enterprise software vendors, as the following chart shows.

Exhibit 3: Mapping As-a-Service Core Ideals to HCM Software Domain

As-a-Service Ideal	Essence of Ideal	Implications for HR Tech/HCM Software Vendors
Write Off Legacy	Adopting the mindset to overhaul obsolete processes and write-off technical debt; preparedness to invest in change	<ul style="list-style-type: none"> ▪ Modernized, uniform user experience ▪ Move to cloud and open architecture or web services ▪ Acquired products integrated, legacy sunset
Design Thinking	Defining and prioritizing outcomes	<ul style="list-style-type: none"> ▪ New product capabilities mapped first to desired business outcomes and solving business problems of stakeholder groups
Brokers of Capability	Sourcing and managing expertise by pulling all available levers to optimize capability gaps	<ul style="list-style-type: none"> ▪ Partnership ecosystem (tech and services partners) designed to add value seamlessly and in customer-specific ways

Collaborative Engagement	Identifying and motivating suppliers as business partners to achieve desired outcomes	<ul style="list-style-type: none"> Software vendor makes understanding customer business context a priority Software and services suppliers work together on customer's behalf
Intelligent Automation	Embracing automation and cognitive computing to augment human performance	<ul style="list-style-type: none"> Embraces the benefits of cognitive computing, machine learning, and NLP as demonstrated in R&D spend and roadmap
Accessible and Actionable Data	Applying forward-looking insights to real-time data with meaningful business context	<ul style="list-style-type: none"> Offers real-time, robust, highly configurable, and business-integrated "people analytics" engine, with actionable dashboard and alerts
Holistic Security	Proactively managing data across the entire service chain of people, systems, and processes	<ul style="list-style-type: none"> Best practices drive security architecture, user access model, data transmission, and encryption methods SOC audits and certifications in place
Plug and Play Digital Services	Plugging into ready to go outcome-focused, people, process, and tech solutions with security measures and consumption-based pricing	<ul style="list-style-type: none"> Vendor facilitates or encourages leveraging of complementary third party apps, tools, and content Value-based pricing; e.g., for modules used

Source: HfS Research, 2017

Trends and Themes

HfS has identified the following trends and themes as having the most relevance for not only HR Technology buyers but also suppliers. These trends all pertain to the still emerging area of predictive capabilities within HCM Systems, and of course, their potential business value:

- » **As explored in our POV "Time to Predictive Value in HR Technology,"** the time to predictive value (TtPV) is defined as the average length of time it takes for a typical customer organization to consistently experience the predictive capabilities within a technology tool or system, and



therefore derive meaningful and incremental business benefits from that solution. The shorter the TtPV, the better.

The key for HR Technology customers to experience a favorable TtPV with deployed technologies stems from the ability to account for, and minimize, a broad range of potentially relevant operational dependencies. The source of these dependencies can be product, vendor, and/or end-customer-linked and includes:

(1) Vendor and/or customer has accumulated or aggregated a large enough and relevant data set. This requires time, often many months, although the cycle can be materially compressed with the technology-enabled capability to retrospectively build the data set based on historical data and activity.

(2) Vendor and/or customer has sufficient analytics and data science competencies among staff—and enough staff with these competencies. This takes financial resources commitment; and the size of the investment is typically a function of the scope of the predictive HCM program (customer side) or capability set (vendor side), and the investments are generally adjusted up/down based on ROI achieved.

For example, Google's HR programs are often cited as best practices and are frequently associated with Google's investment in predictive HCM analytics and then acting on what the analytics tell them. Various industry accounts have estimated the size of Google's People Analytics Team at as many as 30 full-time staff (not confirmed by Google). The benefits and business impacts have been significant and far-reaching, and presumably justified the team's expansion. Benefits have also been serendipitous on occasion. For example, when the company was developing algorithms to predict the best hires in different roles, Google (unintentionally) also discovered that very little incremental value came from conducting more than four interviews. The average customer organization doesn't have to be the overall industry leader in leveraging science in HCM; therefore, investments certainly do not have to be on this scale.

(3) Vendor and/or customer has well-defined and broadly representative data scenarios for validating the algorithms used.

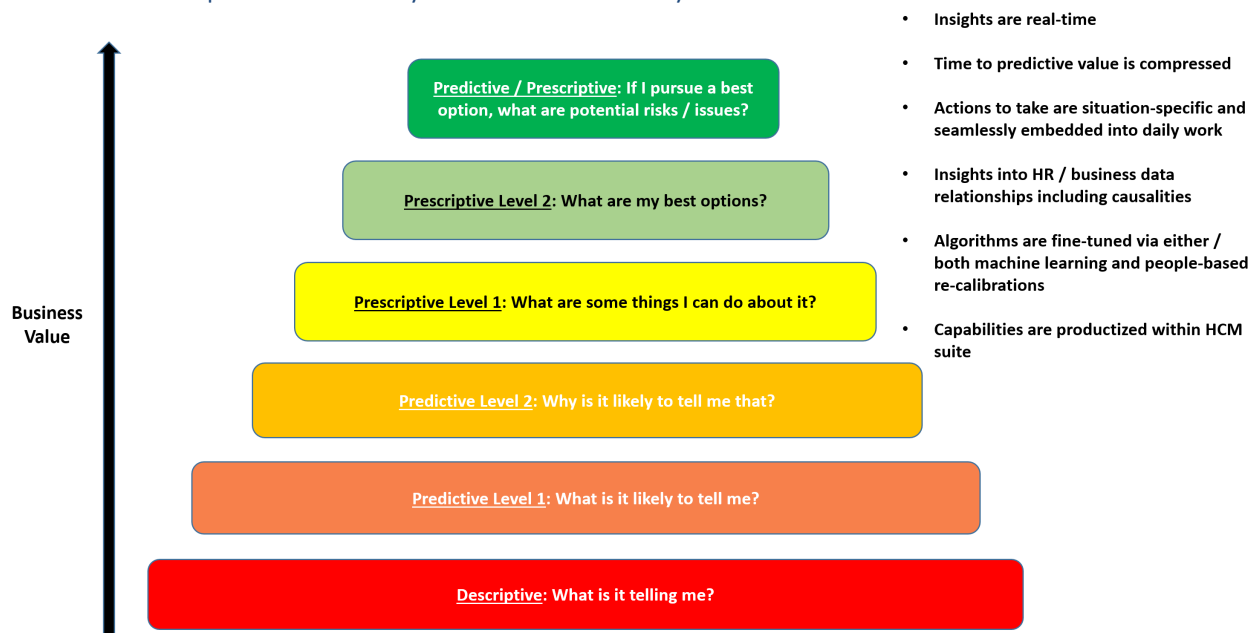
(4) Tuning or calibrating the algorithms developed yields maximum predictive value. The more complex the subject matter and the potential set of data linkages, the more time and iterations are involved. The calibration process can be done by machine (via machine learning) and/or humans (typically with data science expertise). HfS believes that vendors that offer *both* methods underlying their predictive capabilities, or that intend to offer both, are more favorably positioned.

Both methods have advantages in different predictive scenarios; e.g., the length of time to aggregate data or to calibrate and validate algorithms can be shorter for one method or the other, depending on the predictive HCM use case.

- » **Cross-functional, multi-sourced predictive capabilities:** This is about linking HR and people data to other types of business data. The latter could reside within or outside the organization. In-house sources might be actual and forecasted sales and customer and financial data; and outside sources could include market (e.g., customer trends), external labor market data, or a wide range of other industry data sources.

The following chart highlights time to predictive value and cross-functional data as among the key factors that contribute to delivering the most business value for customers.

Exhibit 4: Predictive Capabilities in HCM Systems -- Value Hierarchy



Source: HfS Research, 2017

- » **The ability to embed—and prescribe:** As highlighted in the chart, another critical attribute of HCM Systems that aspire to be best-in-class (relative to this particular capability set) is predictive intelligence seamlessly embedded in the use of the system. As an example, including the following in a manager's task list is considered ideal: "John should be coached today because two of his team members tendered their resignation yesterday." This coaching logically makes system usage and insight consumption much more efficient. This example also highlights another critical theme: prescriptive guidance. The coaching example mentioned is about a manager; the following is an



employee example: “If you take XYZ course, and arrange a mentorship with an expert in the XYZ area, your chance of reducing the time to your next promotion should improve.” Prescriptive intelligence, if rigorously validated, removes the risk of misinterpreting what the insights are highlighting—often not a negligible risk.

- » **“There’s gold in them hills”:** Leveraging unstructured data in the HCM science and predictions arena can be a virtual goldmine if the costs (and risks, see page 1 concerning new EU regulations on data privacy) are accounted for and proactively managed. For example, consider the potential value of relating the content and tone of a customer service rep’s calls logged in a case management tool or emails sent on a particular day (examples of unstructured data) to the employee’s likelihood of quitting, or the chances of having dissatisfied customers that day or the next day. Although these examples don’t carry significant risks, incorporating Facebook posts into this scenario might.
- » **Influencing vs. causing:** HfS believes that although causality is a great goal to aspire to in any predictive realm, in the HCM space, this bar is generally too high to justify the extra data science rigor, a view borne out by the end-customers we surveyed for this research. Additionally, causality elongates the cycle time in which predictive engines are validated, which is not what vendors or customers need to sustain support and momentum for these investments. Knowing that asking a restaurant or retail employee to work very unpredictable hours week after week usually dramatically increases flight risk should be good enough.
- » **Employee engagement—a major influencer:** One of the hottest themes in HR circles for a few years and increasingly in the HR Technology arena, employee engagement is logically correlated with employee retention and productivity. Moreover, as highlighted in scholarly articles in HR journals over the years, engagement is also correlated with customer satisfaction and therefore profitability. HfS believes that a key driver of value relative to employee engagement data is whether the data is collected in real-time or often enough (in non-invasive ways) and quickly leads to management actions if warranted. A healthcare facility undergoing a regulatory audit on care quality within the next week must know immediately whether employee engagement has precipitously declined and which factors probably influenced the decline.

Recommendations for Buyers

In addition to the various recommendations and potential insights for buyers implicit in the other sections of this Report, buyers should seriously consider the following specific recommendations:

- » **Unique change management aspects:** That a well-conceived and executed change management program should accompany the rollout of new predictive HCM capabilities is no revelation. Using



technology to guide managers in their people management activities or in what needs their attention is a major change.

The unique aspect of this change, however, is the natural skepticism that just announcing the change will generate, arguably due to the serious lack of relevant proof points inside the company, and not an abundance of proof points outside the company either (given the early stages of this emerging capability set). This is not a new payroll system or recruiting system that hundreds or thousands of other customers are using.

Based on HfS' assessment of change management programs of all kinds, we recommend that the change management program address this unique aspect in earnest, e.g., by leveraging real customer examples of ROI from these capabilities and not necessarily using Google's example, as few companies will make that type of investment. Additionally, we recommend acknowledging the good reasons for skepticism, and ultimately, the forging of a pact with end-users regarding their trust and confidence rising when adequate proof of predictive value is presented. This proof should ideally be measured or framed in a way agreeable to the key stakeholders. If they agree to the method of proof, then they should accept the case for change if the case is compelling enough. Behavioral changes that might be needed in terms of how managers approach talent or people management is not within the scope of this Report.

- » **Dealing with HR data distrust:** Given that even something as basic as headcount reports is often met with skepticism from HR's internal customers, and the information provided is only descriptive, there is work to be done here. HfS recommends the following important steps to counter HR data distrust:
 - (1) Develop, publish, and train end-users (direct and indirect consumers of the new capabilities) on the basics first. The basics include data and concept definitions, data standards (e.g., how XYZ will be measured and referred to), the work done behind the scenes to ensure data reliability, and what typical outputs or other visual representations will consist of and mean. Then progress to what is being communicated by the predictive insights, their degree of reliability, and methods of delivering a level of reliability to drive appropriate actions.
 - (2) Develop, syndicate, and get buy-in on a data ownership model, e.g., who is responsible for initiating, reviewing, and/or approving all workforce transactions that spawn the data used in predictive analytics and the steps to certify that data. Similar steps should be applied to other data sources.
 - (3) Investigate and ascribe appropriate value to vendor tools and processes that help customers achieve higher levels of data integrity and reliability. As mentioned in Cornerstone OnDemand's



vendor profile later in this Report, Cornerstone’s teams use their Data Scope tool to proactively identify data reliability gaps with customers. Cornerstone uses Data Scope to qualify which customers are good candidates for and are ready to deploy predictive HCM capabilities.

- » **Importance of a people analytics roadmap:** Briefly, every organization of any size should develop a roadmap that depicts the incremental steps that will take the entity from basic descriptive analytics, such as headcount as of a specific date, to more complex descriptive analytics (e.g., year over year headcount trends) to predictive analytics (e.g., will the size of staff in different areas need to be increased?, or the percentage of key employees who are retention risks) to prescriptive analytics (what to do about a key employee who might be leaving or a declining employee engagement trend behind the imminent departure).
- » **Assess how HR Technology vendors are integrating acquired assets:** This practice should always be standard for customers in the HR Technology domain, as some vendors have used the word “integrated” a bit loosely on occasion. In the predictive analytics realm, and as covered in the following Vendor Profiles section (roughly half of the vendors profiled and a good percentage of other HR Tech vendors offering these capabilities), have propelled product suite advances via acquisition. Post M&A integrations can take months to years, and usually progress in stages. Two specific recommendations to buyers to somewhat neutralize vendor integration-related risks are:
 - (1) During the evaluation process, provide the vendor with use cases that meaningfully tie together existing (organically developed) products with acquired products and capabilities, including data model and user experience aspects.
 - (2) Determine whether the key people in the acquired company (data scientists can be as, or more critical than leadership or company founders) have stayed on, and if not, what knowledge transfer or infusion occurred.

Predictive Capabilities in HCM Systems Blueprint: The Grid

Given the newness of this space, HfS did not develop a full Blueprint at this time. However, we have a perspective on where the vendors stand and how they’re positioned for future success. To give you a picture of how HfS sees the market landscape at the moment, to evaluate these capabilities within HRMS providers, we looked at two primary areas:



Execution

- » “Skin in the game” in the form of R&D, other impactful investments, and all other relevant indications of sustained commitment to this capability area. These indications might include crafting an associated business case and roadmap, co-creating use cases with customers, pursuing relevant acquisitions, effectively articulating an “HCM science vision” and having a blueprint for executing on it, or bringing to market predictive capabilities in adjacent HCM areas, or other areas of business operations. Any relevant customer examples provided, notwithstanding the relative newness of this capability area, were heavily considered in our detailed scoring model.

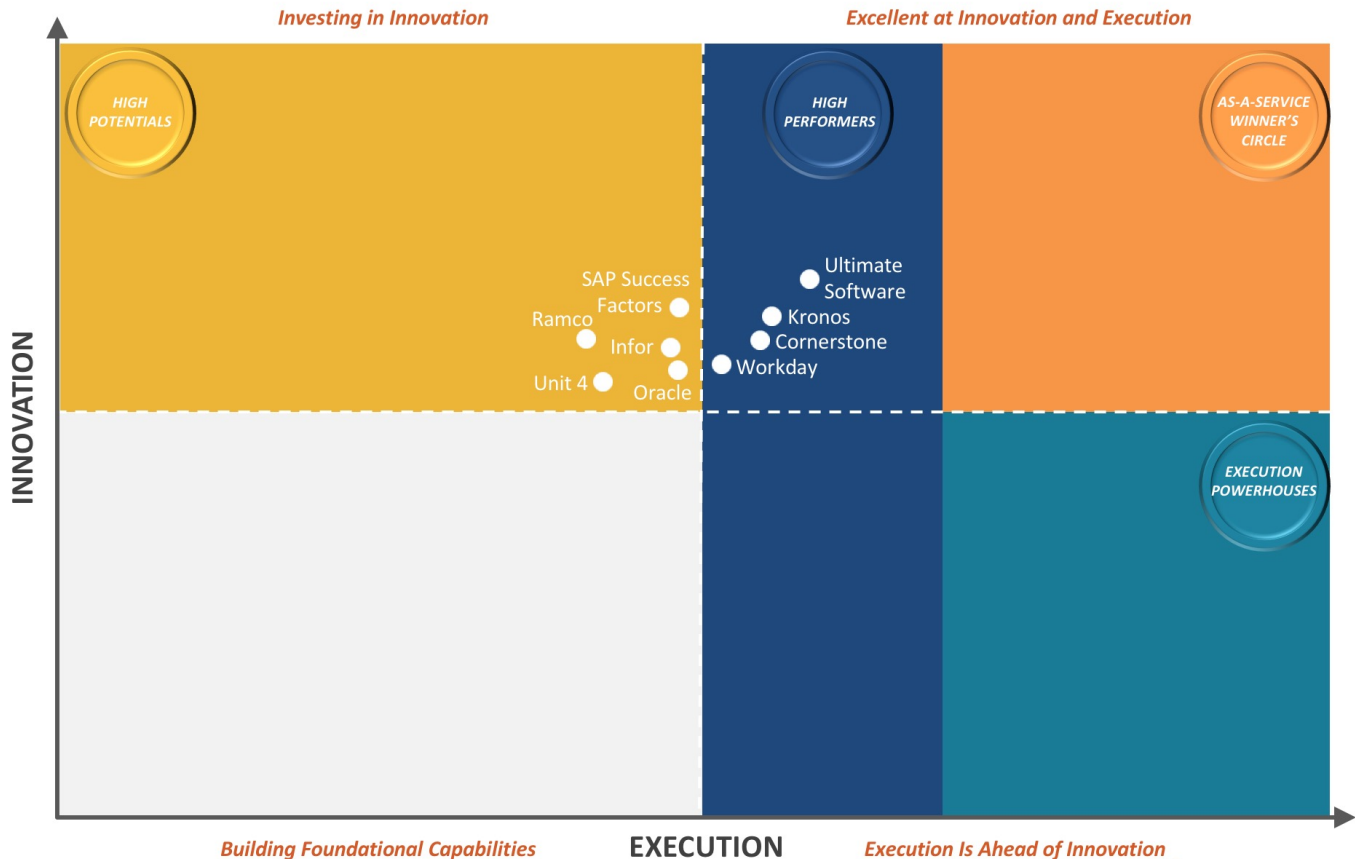
Innovation

- » Innovation starts with the software vendor’s existing and planned examples of product innovation (or even innovative thinking) in this capability area, including the depth of their surrounding analysis. Because technology vendors often get very excited about new offerings and tout them as the next great market disruption, while leaving it to clients to envision how that technology might be applied to their specific business problems. Thus, we also credited providers that could explain business value and potential from the new capabilities in ways that would resonate with buyers (and with us!), over vendors with more grandiose but perhaps not very tangible ideas about how to progress in this area.

HfS employs a weighted (evaluation factor) scoring model, with eight to ten criteria for Innovation and Execution. Weightings are based on a combination of responses from over 1,300 crowdsourced survey participants and intel gathered in customer calls about what is driving or impeding business value. We use a 1–10 score for each criterion and then rank within each scored criterion to confirm internal consistency of our thought process and the application of that thought process. The data-gathering effort for this Report included vendor briefings (seven of the nine HRMS vendors covered gave briefings; Oracle and SAP Success Factors abstained from briefings for now, although SAP SuccessFactors provided various key info for their vendor profile), an abbreviated RFI process, interviews with numerous customers (different company profiles and different roles) and implementation services consultancies working with one or several of the products, reviewing vendor collateral including case studies and evaluating the information presented in relevant third-party presentations (e.g., on YouTube).

As an example of our commitment to uncovering and validating key information, we looked to identify and leverage the perspectives of CHROs and HRIS heads who were familiar with (recent versions of) multiple HCM systems products. A few of those individuals, after our conversation with them, referred us to others in their current and previous organizations for additional insights.

Exhibit 5: Predictive Capabilities in HCM Systems Grid



Source: HfS Research, 2017



Blueprint Guide Grid Summary

To make it into the Winner's circle of an HfS Blueprint Market Guide, a vendor organization needs to demonstrate an ability to consistently deliver excellence in Execution and Innovation within the capability area covered. Given that predictive capabilities in HCM Systems are still in the early stages of evolution and customer deployment, none of the nine HR vendors included qualified for the HfS Winner's circle. That said, five of the vendors were evaluated as High Potentials: SAP SuccessFactors, Ramco, Infor, Oracle, and Unit4. HCM Systems providers ranked as High Performers in this domain were Ultimate Software, Kronos, Cornerstone OnDemand, and Workday. Overall, however, if a standard deviation test was applied to assess the degree of variability between vendor scores (and ultimately grid placement), it would reveal only modest variability, particularly within the High Potentials group.

You should see this grid as a starting point. Without question, buyers and vendors will start to see more proof points and then more capabilities added over time. Different vendors will emerge as being out in front at different times, including in first-to-market ways. It would be pure conjecture to assert which ones will be leading in this capability area two to three years down the road, but the vendors that demonstrated a continuing commitment have done so for good reason, and that will drive future predictive HCM product investments and innovations.

HCM Systems Vendor Profiles

Key:

Top Quartile Capability
Average Capability
Limited Capability

Ultimate Software

Predictive Capability Areas in Today's HCM / HRMS Systems	Forecasting / Scheduling / Costing Labor
	Strategic Workforce Planning
	Talent Acquisition (Best Fit, Top Talent)
	Potential & Performance
	Employee Engagement
	Learning & Development Needs
	Compliance and Safety Risks
	Organizational Readiness for Change
	Retention / Flight Risk
	Fraud or Other Criminal Behavior
	HCM Factors Linked to Business Performance
	Other (See 'Examples')
Strengths	<ul style="list-style-type: none"> • An initial set of predictive capabilities are available to all customers by default, and these predictions work out of the box, so minimal setup/training is required. • Demonstrated ability to progress its HCM predictive capabilities fairly quickly; e.g., started with retention risk, then extended to engagement and performance use cases, then to select prescriptive capabilities. Can also predict performance in the context of potential roles. • First to market with its innovative and high-value "Leadership Actions" capability (2015), offering prescriptive talent management guidance to line managers. This innovative capability combines two of the major sources of differentiation and innovation in the predictive HR Tech domain: embedding insights to seamlessly make them part of daily work (e.g., like a task list), and prescribing best actions. • One of the very first HRMS players to incorporate Natural Language Processing (NLP) into its core system, so also innovating in the cognitive HCM realm. • The company's acquired technology from Kanjoya, including NLP capabilities, measures the qualitative aspects of employee and manager feedback such as common emotions expressed. This generates an "Emotional Promoter Score" that lets managers know their teams' top concerns and the intensity of how they feel. It also guides best actions to take to improve employee engagement, retention and productivity.

	<ul style="list-style-type: none"> Highly visual outputs are extended even further by integrating 3rd party BI tools such as Cognos BI.
Challenges	<ul style="list-style-type: none"> Recruiting area predictive capabilities and linking HR to non-HR/business data (from external sources) might be relevant gaps for some customers. Algorithms were initially designed to be driven off machine learning vs. people-based re-calibrations. Ultimate plans to eventually utilize both methods. Still in early stage of embedding prescriptive capabilities within daily work activities (e.g., with UltiPro Leadership Actions); and prescribing certain HCM actions requires extreme proving out of predictive value. Roughly 60% of Ultimate's customers are between 500 and 2,500 employees and likely have only modest in-house data science competencies at best. The ability to scale a "customer success model" to support a fairly high-touch predictive analytics program with these customers will be critical to sustaining the vendor's excellent momentum in this area. The vendor's plans to perhaps tie Payroll data into its predictive capabilities rollout will take deft positioning given the absence of a full Financials suite.
Key Customers	<p>Ultimate's predictive capabilities customers (additional details in next section) include American Fidelity, Anderson Center for Autism and INTRUST.</p>
Examples / Results	<ul style="list-style-type: none"> Ultimate's (roughly 1,000) customers using their Retention Predictor have 35% lower voluntary turnover than those customers not using it. American Fidelity, the supplemental-benefits provider with over 2,000 employees, deployed UltiPro's predictive capabilities to enhance management's leadership skills and address retention goals. An Ultimate Software customer since 2004, they began using the UltiPro Retention Predictor™ in 2014. The Predictor is delivering meaningful data to executives and the company is taking action to retain top flight risks. Anderson Center for Autism's implementation of Predictive Analytics helped to reduce turnover from a high of 30% to currently 17%. Due to the amount of training Anderson provides new hires based on regulatory requirements, the average cost per hire is approximately \$20,000. Reducing turnover from 240 employees per year to 136 saved approximately \$2.1 million on average. INTRUST Bank in Kansas, with approximately 900 employees, uses UltiPro for core HR, payroll, employee and manager self-service, performance management, and recruitment, in addition to the vendor's High-Performance Indicator and Retention Predictor. The company determined that accuracy was considerably higher with Ultimate's predictive tools than when managers' assessments were utilized. Managers were also more optimistic in predicting high-performance employees than what the High Performance Indicator found; and more optimistic about judging flight risks. The Retention Predictor found more employees at risk of leaving, based on retrospective vs. current analyses.
In Brief	<p>Ultimate started in 2011 with an employee retention predictor before investing in predicting performance, followed by employee potential in 2013, and engagement in 2016. Unlike many solution providers, UltiPro predictors are included in its core HR</p>



solution. In 2016, the company's acquired solution from Kanjoya, branded as UltiPro Perception, now couples machine learning, natural language processing and predictive analytics to help companies understand and act on employee feedback. One major question that remains is how Ultimate will facilitate adoption and optimal usage across a large customer base that often has only modest data science and analytics competencies.

What to Watch

- » **The rise of collaborative business cases (between vendors and buyers) to justify future investments in this area.** HfS believes that HCM predictive capabilities represents an unprecedented opportunity for solution vendors and end-customers to work together on crafting business cases. As opposed to both parties waiting and wondering if the other's investment and commitment to "leveraging science in HCM" is forthcoming, this process can be accelerated for mutual benefit. This is much more than 1-to-1 interactions. We believe vendors working with customer groups on business case collaborations, and customers sharing intel with each other on ROI from these new capabilities and ways of mitigating challenges, will propel progress while minimizing under-performing or protracted investments from both.
- » **The emergence of very niche Services companies dedicated to housing customer data, and more significantly, developing predictive models around it.** These companies will typically utilize a staff of data scientists that rotate between customer engagements. One such company, just for illustrative purposes, is CrowdFlower (<https://www.crowdfLOWER.com>). HfS believes this type of services firm might fuel broader and faster adoption within the customer community, particularly adoption of predictive and analytics toolsets vs. pre-defined use cases.
- » **Will drones ever play a role in HCM predictive capabilities?** HfS sees strong potential. An example that surfaced in our conversations with one vendor profiled herein (Ramco Systems) involved drones flying over construction sites to see if and when workers were utilizing protective gear more consistently. This would predict not only different risks and costs (fines, lawsuits, and absenteeism) but also which actions by managers or the company overall were effective in achieving a more safety-conscious workforce. Although worksite cameras can serve similar purposes, unstructured outputs generated by drones might be easier to build algorithms around than traditional images.
- » **Finally, HfS sees an opportunity for HCM systems purveyors to rethink some of their notions around "which business risks are worth taking."** The HR Technology landscape has occasionally been characterized as "M&A on steroids" due to dozens of acquisitions, some of which (e.g., SAP acquiring SuccessFactors and Oracle acquiring Taleo) in the \$2-3 billion range. Certainly acquisitions are one



way to aggressively pursue a differentiating product vision and address product gaps and innovation opportunities..

The problem is that most M&A's, within or outside the HR Technology arena, come with substantial risk. These range from key people driving the value of the deal leaving, to conflicting company cultures, to challenges harmonizing pay and organizational structures, to political in-fighting, to disruptions involving in-progress strategic initiatives. Observers of the industry witnessed how long it took Oracle to coherently articulate their strategy for folding-in the PeopleSoft customer base and product suite, an articulation which changed several times due to all the inherent complexities. We've also seen numerous other HCM solution vendors sometimes take years to fully integrate acquired assets in different capacities (e.g., achieving the same user experience across products). The point we're highlighting is that investing in the type of product capabilities discussed here might present less of a business risk than a potential M&A scenario, while offering fairly compelling if not comparable upside.

In Summary

The HRMS product capability area that served as the focus of this research generally started slowly and conservatively in terms of investment from most vendors and customers. However, predictive engines within HRMS platforms are clearly on the cusp of gaining momentum. Examples shared by those interviewed in the course of this research indicated potential sources of value from these capabilities is quite broad, including various use cases we weren't expecting to hear about; e.g., predicting compliance or even legal risks, and prescribing actions to take to mitigate risks and embedding them in the form of task lists. The main open question is how long it will take before a critical mass of customers start adopting these product innovations. Yes, the costs in terms of time and effort are not insignificant, but customers can perhaps start with a modest investment of time and effort (some vendors also make these capabilities part of the core system so no extra SaaS fees). That second wave of early adopters can then go further into this realm when business impacts are obvious. In time, HfS believes they will be, and early adopters often hold onto competitive advantage once they have it.

About the Author

Steve Goldberg



Steve Goldberg is Research Vice President, HR Technology and Workforce Strategies at HfS Research. Steve brings to HfS a unique combination of insights and experiences from his 30 years in very diverse senior roles in the HR Technology domain.

Steve's previous roles include leading HRIS and Talent Management functions at investment banks in the US and Europe, heading up HCM Product Strategy and serving as primary spokesperson at PeopleSoft, co-founding a boutique HR Software company, operating as VP HR-M&A and

HR Shared Services at renowned industry consolidator Wayne Huizenga's corporate center, and even a stint as a principal industry analyst at Bersin & Associates.

In recent years, Steve's HR Technology and Change Management advisory practice has been engaged by over 30 solution vendors around the globe, and some fairly prestigious corporate HR clients in the US. He's also delivered dozens of compelling white papers, webinars and feature talks as part of the thought leadership services he's provided to his vendor clients.

Steve's thought-provoking, but in true HfS fashion -- "keeping it real and making it actionable" -- research agenda will be shaped by the aforementioned experiences, his close collaboration with HfS colleagues, and his tireless commitment to knowing what keeps both buyers/end-customers and solution providers up at night. He is a proven industry influencer who enjoys being influenced just as much.

Specific focus areas of Steve's HfS research will likely include the relationship between As-a-Service themes and HR Technology themes, leveraging change management and other value drivers in deploying HR Technology. Steve will also focus on the changing face of HR Outsourcing (multi-tower and specifically RPO), best practices relative to people analytics roadmaps, frameworks for defining what global or vertical solutions really means, and the true sources of product differentiation in the HR Technology landscape.

Steve holds a BBA in Industrial Psychology and an MBA in Human Resource Management. Outside of the work that he remains supremely passionate about, Steve plays blues piano (taught himself at age 17) and does volunteer work in correctional institutions, something he's been doing for more than 10 years.



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HfS coined the terms "The As-a-Service Economy" and "OneOffice™", which describe HfS Research's vision for the future of global operations and the impact of cognitive automation and digital technologies. HfS' vision is centered on creating the digital customer experience and an intelligent, single office to enable and support it. HfS' core mission is about helping clients achieve an integrated support operation that has the digital prowess to enable its organization to meet customer demand - as and when that demand happens. With specific practice areas focused on the Digitization of business processes and Design Thinking, Intelligent Automation and Outsourcing, HfS analysts apply industry knowledge in healthcare, life sciences, retail, manufacturing, energy, utilities, telecommunications and financial services to form a real viewpoint of the future of business operations.

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