

Human Resource Leaders Will Need Smarts to Capitalize on Big Data

Shimmin, Brad

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Summary

Issue

Human resources (HR) professionals have long known that the recipe for a successful business is quite simple: First, attract top talent; second, keep that talent happy. Attracting the best employees has long been a specialty, supported by a dynamic industry made up of professional recruiting services geared toward finding the best candidate for a given task, according to task, region, or even corporate culture. But once the right employee is aboard, the real challenge of keeping that employees comes down to in-house professionals equipped with the best software. Historically, technology providers have endeavored to help HR professionals care for the well-being of both employees and company through a myriad of best practices and technological innovations designed to do things like measure employee engagement and facilitate corporate transpa-

rency. In the end, however, the supportive decisions made by HR professionals based upon these tools too often comes down to simple human intuition. Such an inexact, hit and miss approach to talent management must improve. That's where big data comes into play. Thanks to the cloud and to open source projects such as Apache Hadoop and Spark, nearly any company can build out a respectable data platform that brings together the massive volume of data streaming off of operational and transactional systems, all of which can of course be applied to talent management. The challenge of course is both accessing and making use of that data within the domain of HR. Within this assessment report, we will dive into some of the challenges and opportunities faced by HR professionals in blending talent management with big data.

Key Takeways

Over the next 18 months, cognitive analytics will greatly influence HR with technologies such as machine learning (ML) and predictive analytics being used to correlate disparate data sources and predict outcomes such as the likelihood of personnel turnover.

Analytics-informed HR programs, if they are to succeed, must rely upon the confluence of both operational and behavior systems where employee performance is not assessed on its own but instead within the broader context of personal history, associations, preferences, and affinities.

HR departments cannot rely upon IT to provide the domain expertise required to make use of big data; an investment in HR-savvy data professionals with experience in the nuances of privacy, sentiment analysis, and departmental operations will be necessary.

Perspective

Current Perspective

Quite simply, big data drives the way companies make decisions, equally informing the most strategic decisions and optimizing the most mundane business processes. With the sudden rise of open source big data platforms such as Apache Hadoop and Spark, the emergence of cloud-borne data platforms, and the dominance of self-service analytics software from vendors such as Qlik and Tableau, corporate leaders have suddenly found themselves sitting atop an ever

growing and highly accessible mountain of data, which can be readily applied to talent management. But it's not just marketing and sales departments that are maximizing this new culture of data. HR practitioners are particularly well-positioned to put the velocity, variety and volume of big data to work in taking the guesswork out of managing and maximizing employee resources. Here are a few of the big data opportunities currently available to HR practitioners.

The value of departments, individuals, and even discrete business processes can be accurately quantified. Business owners can make staffing requests and conduct resource planning based upon actual task values, values backed by historic data and enhanced by accurate, predictive models.

Corporate payroll practices and compensation packages can be evaluated not in isolation but instead within the context with broader industry norms and against global benchmark studies specific to each industry.

An actual retention risk model for select departments, such as customer relationship management (CRM), can be built that accurately quantifies employee value based upon past performance, current compensation, and customer impact.

High performing and high risk employees can be clearly segmented and addressed based upon work history, current workload, social media activity, professional affiliations, training completed, etc. This allows HR to focus its efforts more effectively on moving those at risk toward a more positive outcome.

HR departments can build higher performing recruiting models based upon both internal requirements and external influencing factors (social media, recruiting sites, professional communities, etc.).

HR practitioners can create and communicate authoritative recommendations using compelling data visualizations. With emerging analytics collaboration tools and storytelling tools, for example, HR professionals can not merely inform but also influence stakeholders by making them an active participant in the data insight process itself.

The last example listed above (communicating insights) is of particular importance and by itself validates an investment in an analytics-informed HR solution. To illustrate, from our recent study of more than 200 HR professionals doing business within the Asia Pacific region, we found that the single biggest obstacle faced by HR professionals in implementing large-scale projects stemmed from an inability to prove value to stakeholders. How better to do that than by showing them how a pertinent insight was derived? Relatedly, the second biggest obstacle cited by survey respondents was an unclear ROI for major projects such as workspace transformation. As mentioned in the list of benefits above, the application of big data within the realm of HR can better quantify employee value. And in order to prove that value, what is needed is a compelling means of telling a story. The trick is that such stories must be built using data from a wide array of sources and data that has been validated. In other words HR needs to build decisions based upon statistically relevant and trusted data. Before creating a compelling data visualization, therefore, HR professionals must locate, verify and make use of the right data. IT departments may be willing and able to pull together the right data from across various data stores, but how can HR professionals know that the decisions they're making based upon that data are accurate or even that the questions being posed are appropriate? Someone with both domain expertise within HR and someone with a deep knowledge of the data on offer is required.

Unfortunately, IT departments, even those building out company-wide data architectures, rarely prioritize or possess the resources necessary to support HR in this way. For this reason, many pure play human capital management (HCM) firms have themselves prioritized big data with the intent of democratizing data through the operationalization of domain expertise. Take Workday software, for example, which recently acquired one of the industry's oldest and best respected Hadoop data store providers, Platfora. Workday's goal with this acquisition was to create an enterprise-scale but still business user friendly data layer for HR users supporting data integration, preparation, storage, processing, analysis, and reporting. Larger technology providers such as SAP, Oracle and IBM have actively sought to do the same, melding HR software with underlying big data architectures and blending both with

advanced analytics software dedicated to the democratization of data. The idea is to break down the barriers and lessen the differences between data scientists and HR professionals. Take IBM's Watson Talent Insights offering, for example. This product, which is built on top of the Kenexa platform and makes use of numerous IBM Watson cognitive tools, allows HR professionals to use natural language processing (NLP) to ask simple questions such as "Who is most at risk for attrition within the northeastern sales region?" Typically this sort of exchange would require a data professional to translate that request into the appropriate query language, create the appropriate table joins and then clean/transform the resulting data set before asking this simple question. This is a huge leap forward for HR professionals, which heretofore had to have a business analyst write such a request up for business intelligence (BI) developers, a process that could take weeks. Cognitive tools such as this can immediately answer such questions; they can even statistically rate the reliability of the ensuing answer based upon the underlying data.

Where cognitive tools like NLP will truly make a difference, however, isn't just in helping HR professionals ask the right questions right away. More fundamentally, they can help HR systems better ingest and understand (as in identify contextual relationships) within a wide array of structured and unstructured data -- back office operational data from an expense system, cloud-borne data from a sales enablement service, or some personal calculations housed in an Excel spreadsheet. This takes artificial intelligence (AI) tools such as machine learning (ML) to train and refine the resulting data set as it evolves over time. Fortunately, most technology providers with an interest in big data (including Google, Microsoft, IBM, and Amazon) are actively building API-accessible ML services that can literally plug into nearly any data workflow. Even though ML describes a self-learning, self-service system, that system still requires a data professional with knowledge specific to the domain of talent management. There is no free lunch for HR departments seeking build out a comprehensive, supportive data architecture. It should be no surprise, therefore to learn that the same vendors mentioned above, particularly those with strong professional services groups (such as IBM, SAP, and Oracle), are beginning to operationalize this sort of knowledge for particular verticals and use cases.

They are also curating select data sets (social media streams, weather data, professional networking sites, etc.) for ingestion within HR systems as a value-added service. This evolution, this combination of data and HR disciplines, is ushering in an era of employee experience management systems.

Much like customer experience management, these systems seek to prioritize people and culture within a company through a unified, collaborative, transparent, and informative corporate experience that drives and is subsequently informed by data. Such solutions seek to use the cloud, mobility, and collaboration software together to create an experience that is the same for those working in the office, at home, or in the field. This is certainly in alignment with market expectations. For all three areas, those HR professionals we surveyed noted a significant increase in spending for the coming year. Respondents also saw the broad adoption of collaboration platforms as the single most important initiative and top challenge to tackle over the coming months. What does the future hold for data-savvy HR professionals? Further operationalization

and productization of best practices, data models, and data sources will open up many opportunities for enterprise buyers, particularly those willing to run on and consume data via cloud-borne platform-as-a-service (PaaS) offerings. And employee experience management solutions will put all of that into the context of business. But there are some unexpected opportunities emerging as well. Consider the Internet of things (IoT) – for example, imagine a shop floor that has been fully instrumented and staffed by personnel equipped with instrumented mobile devices. An HR system capable of accessing and analyzing the resulting data could in real-time optimize processes like shift changes. It could also lower injury rates by detecting anomalies in staffing and behavior. That system could also predict future staffing requirements with a high degree of accuracy, all operationalized and automated through cognitive systems. As IoT matures, we will certainly see more opportunities like this emerge. HR practitioners therefore, would do well to keep in close contact with executives and IT as their companies explore potential use cases for IoT.

Recommended Actions

Vendor Actions

Existing HR buyers should not expect a single, unified HR/big data system that supports both recruitment and employee management. While deeply intertwined, these disciplines remain someone split between software and professional services offerings. However, most technology providers are endeavoring to bring them together, as is the case with IBM's Kenexa Recruitment Process Outsourcing service, which speaks to unique geography, market, and cultural requirements.

Similarly, while many of the larger technology providers possess both HR and big data solutions, potential buyers should bear in mind that much of the work required to integrate those solutions still falls upon corporate IT and DevOps. Deployments will likely require a professional services engagement for product integration. This is particularly acute where customers require that analytics be embedded directly within HR workflows.

HR professionals should not put too much faith in self-service analytics tools that promise to guide users to the correct query data visualization, and even business insight. Many of the cognitive tools mentioned above provide a solid starting point. However, when it comes to selecting and querying multiple data sets that have not been vetted by IT, a degree of data expertise will be required to avoid hidden dangers surrounding concepts such as data veracity.

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www.globaldata.com



Basingstoke

4th Floor, Northern Cross
Basing View, Basingstoke,
Hampshire, RG21 4EB,
UK
+44 (0) 1256 394224

Beijing

Room 2301 Building 4
Wanda Plaza, No 93 Jianguo Road
Chaoyang District
Beijing 100026, PR China
+86 10 6581 1794
+86 10 5820 4077

Boston

179 South St, Suite 200,
Boston, MA 02111
USA
+1 617 747 4100

Buenos Aires

Basavibaso 1328, 2nd Floor
Off 206, Buenos Aires, 1006
Argentina
+54 11 4311 5874

Dubai

Dubai Media City
Building 7, Floor 3, Office 308
PO Box 502635
Dubai
United Arab Emirates
+971 (0) 4391 3049

Hong Kong

1008 Shalin Galleria
18-24 Shan Mei Street
Fo Tan, New Territories
Hong Kong S.A.R
+852 2690 5200
+852 2690 5230

Hull

GlobalData PLC
Shirethorn House
37-43 Prospect Street
Hull
HU2 8PX

Hyderabad

2nd Floor, NSL Centrum,
Plot No-S1, Phase 1 & 2
KPHB Colony, Near: BSNL Office
Hyderabad-500072
Andhra Pradesh
+91-40-30706700

London

John Carpenter House
7 Carmelite Street
London
EC4Y 0BS
+44 (0) 207 936 6400

Madrid

C/Jesusa Lara, 29 - Atico J,
28250 Torrelodones Madrid,
Spain
+34 91 859 4886

Melbourne

Suite 1608
Exchange Tower
Business Centre
530 Little Collins Street
Melbourne
3000, Victoria, Australia
+61 (0)3 9909 7757
+61 (0)3 9909 7759

New York

441 Lexington Avenue,
New York, NY 10017
USA
+1 646 395 5460

San Francisco

Progressive Digital Media Inc
425 California Street
Suite 1300
San Francisco
CA
94104
USA
+1 415 800 0336

Seoul

Global Intelligence & Media Korea Limited
11th Floor, West Wing,
POSCO Center Building,
892, Daechi-4Dong,
Gangnam-Gu, Seoul 135-777
Republic Of Korea (South)
+82 2 559 0635
+82 2 559 0637

Shanghai

Room 408, Jing'an China
Tower No: 1701,
West Beijing Road
Jing'an District, 200040,
Shanghai, PR China
+86 (0)21 5157 2275(6)

Singapore

1 Finlayson Green
#09-10
049246
Singapore
+65 6383 4688
+65 6383 5433USA
+1 415 800 0336

Sydney

Level 2
63 York Street
Sydney
NSW 2000
Australia
+61 (0)2 8076 8800

Tokyo

Global Intelligence & Media Japan Tokoyo
Level 3,
Sanno Park Tower,
2-11-1 Nagata-cho, Chiyoda-ku,
Tokyo, 100-6162
Japan
+81 3 6205 3511
+81-3-6205-3521

Toronto

229 Yonge Street
Suite 400
Toronto
Ontario
M5S8 1N9
Canada

Washington

21335 Signal Hill Plaza,
Suite 200, Sterling,
VA, 20164
+1 703 404 9200
877 787 8947 (Toll Free)