Fuel your business success with Oracle’s powerful HCM Cloud Suite

Leveraging Oracle’s powerful suite of HCM cloud solutions – sourcing, recruiting, onboarding, talent management, learning, compensation, and core HRIS will give you an edge on the competition. Baker Tilly works seamlessly with Oracle to understand the client’s business challenges, diagnose their current state, identify gaps, and map out the best course to a transformed and modernized HR organization and workforce.
Topics

• The Human Capital Storm
• Investigating the Evolution of Talent Analytics
• Implications for HR
The Human Capital Storm – Talent Scarcity

Coming out of the recession, the US had over 8% unemployment, now it’s around 5.0%, about 7.9 million people

Jan 2014
3.7 million jobs unfilled

July 2014
4.6 million jobs unfilled

April 2016
5.4 million jobs unfilled

That’s about 1.5 unemployed people for every open job!

SOURCE: BLS April 2016
The Human Capital Storm – What’s it Costing Us?

These unfilled jobs cost the USA approximately $160 Billion in GDP per year.

TALENT CONSTRAINTS
creating many lost opportunities

UNABLE TO INNOVATE EFFECTIVELY

UNABLE TO PURSE MARKET OPPORTUNITY

CANCELED STRATEGIC INITIATIVES

Source: BLS 2015
We have the attention of the CEO

1. Human Capital

2. Innovation

3. Customer Relationships

4. Operational Excellence

5. Sustainability

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<th>Global N=943</th>
<th>Challenges 2015</th>
<th>United States N=230</th>
<th>Europe* N=133</th>
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</table>
What is HR doing about it?

Investigating the Evolution of Talent Analytics
Reporting and Analytics have been around while...

Babylonian tablet 1800 BCE

SOURCE: O. Neugebauer and A. Sachs, *Mathematical cuneiform texts*, American Oriental Society, 1945. This, as far as I know, is where the tablet was first analyzed.
... there were some ‘enhancements’ over about 4,000 years

Farm Census 1850

<table>
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<th>Text Orientation!</th>
<th>Merged Cell Column</th>
<th>Headings!</th>
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<th>Live Stock, June 1st, 1800</th>
<th>Produce during the</th>
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<td>1500</td>
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<td>Aaron S. Darby</td>
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<td>200</td>
<td></td>
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</table>

SOURCE: Missouri State and Territorial Census Records (12-0828) 1850 Census, Agricultural Schedule page 1
Last 75ish years brought us integrated business analytics...

“In God we trust, all others bring data.”

“Break down barriers between departments. People in research, design, sales, and production must work as a team, in order to foresee problems of production and usage that may be encountered with the product or service.”

W.E. Deming
Statistics and Quality Hero
Last 75ish years brought us integrated business analytics...

“What’s measured, improves.”

Peter Drucker
Business Management Guru

“Information responsibility, then, begins correctly identifying the information you need to effectively carry out your job and extends to ensuring that the information flows to people in other areas who stand to benefit from it and in a form in which those people will readily understand it.”
Now, analytics are embedded in our lives...
We are literally swimming in data

Every 2 days we create as much information as we did from the beginning of time until 2003.

Over 90% of the data created in the world is on the internet.

If you burned all of the data created in just one day onto DVDs, you could stack them on top of each other and reach the moon, twice.

Source: 2014 Bernard Marr, Advanced Performance Institute, BWMC Ltd.
The point of this little parable?

What the heck is water?

• Sometimes what’s most vital is all around us – but tricky to see

• Just like water for the fish, the workforce data you are unconsciously swimming in might be extremely valuable – So, how’s the water?

Source: Adapted from This Is Water. David Foster Wallace. 2010
So......

How is HR leveraging data to deliver Talent Insights?
The Evolution of Talent Analytics
From Descriptive to Predictive
HR tends to react after the ball has already been hit
But, what if we knew what was coming before it actually happened?
Here’s when the ball hits you in the back of the head
Meet John, he’s a critical talent...

Q1: John’s Retention
Issues Emerge

Q2: John’s Performance
Drops

Q3: You Find Out
John Goes to
Competition

Q4: John’s Replacement
Hired

• Wouldn’t it be nice to know about these issues?
• And that there is an 82% probability John will quit in next 12 months?
• Or, that a 10% pay increase and a week off would reduce that to 32%

That’s the power of talent analytics . . .

Mean of responses from 410 corporate officers
“How much more does a high performer generate annually than an average performer?”

- 49% - 67%
- 60%
- 49%
- 67%

Increased productivity in operation
Increased profit in general management
Increased revenue in sales roles

Source: McKinsey
War for Talent 2000

Hiring / recruiting costs
Training costs
Lost productivity costs
Overworked remaining staff
Lost knowledge

Saratoga Institute, 2008
How do organizations do this?

Use the “scientific method” - take a hypothesis from the business and test it

Scientific Method

Theory
create or modify the theory

Observation
perform the experiment

Prediction
design an experiment to test the prediction

Experiment
use the theory to make a prediction

Now a couple of examples....

Google’s People Analytics Value Chain

Opinion
Gut Feel, Anecdotal

Data
Observable, Repeatable, Qualitative, Quantitative

Metrics
Summarize and Explain the Data

Analytics
Connect The Dots, Find Relationships

Insight
A-HA!

Action
Don’t Stop Until You Take Action

SOURCE: TLNT February 26, 2013 How Google Is Using People Analytics to Completely Reinvent HR
Example: Liberty Mutual Insurance

**Theory and Prediction:** Operated under a belief system that sales candidates with good grades who come from highly ranked colleges will make good performers.

**Experiment:** Performed a statistical analysis of sales performance over the first two years of a new employee and correlated total performance and retention rates against a variety of demographic factors.

Example: Liberty Mutual Insurance

**Observations:**

- **What DID predict sales performance:**
  - An accurate, grammatically correct resume
  - Having completed some education from beginning to end
  - Having successful sales experience in high priced items
  - Demonstrated success in some prior job
  - Ability to work under unstructured conditions

- **What DID NOT matter:**
  - Where the candidate went to school
  - What GPA they had
  - The quality of their references

The traditional belief was wrong.

Within 6 months of implementing a new screening process revenues increased by $4mm

Example: AMC Theatres

**Theory and Prediction:** Believed that highly successful concession sales associates are best measured by cash register adeptness, and that high turnover in this segment was unavoidable.

**Experiment:** Performed statistical analysis to test which traits were the best predictors of successful concession workers, and which most influenced retention.

Example: AMC Theatres

**Observations:**

- What **DID** predict successful concession workers *(Higher sales, better retention)*
  - Traits such as
    - Social Sophistication
    - Initiative
    - Integrity

- What **DID NOT** matter:
  - Cash register adeptness
  - Age
  - Education level

**The traditional belief was wrong.**

- Factored findings into screening of new hires and ongoing training.
- Reduced turnover by 50% *(10,000s PT workers)*
- Increased bottom line margin by 1.5% *(razor thin business)*

Another HR example?
Dilbert does predictive analytics too...
So what commonly gets measured...

### Types of data insights considered critical for helping C-level executives make decisions (% respondents)

<table>
<thead>
<tr>
<th>Type</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future (eg, predictive)</td>
<td>70</td>
</tr>
<tr>
<td>Trends (eg, sales)</td>
<td>43</td>
</tr>
<tr>
<td>Scenario (eg, performance)</td>
<td>41</td>
</tr>
<tr>
<td>Cross-functional (eg, flowchart)</td>
<td>32</td>
</tr>
<tr>
<td>Current status (eg, quality)</td>
<td>23</td>
</tr>
<tr>
<td>Historical (eg, energy use)</td>
<td>20</td>
</tr>
<tr>
<td>Qualitative (eg customer experience)</td>
<td>18</td>
</tr>
<tr>
<td>Real time (eg, customer interactions)</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Economist Intelligence Unit survey, August 2012.
So, how do we formulate forward looking insights?
Gap starts with these questions . . .

Turnover and Retention
1. What is our voluntary turnover rate among individuals in critical roles? What are the associated costs to the business?
2. What percentage of our high performers are at high risk for departure?
3. What is our voluntary turnover rate among top performers? What are the associated costs to the business?

Talent Infrastructure
4. What is the depth and quality of the successor pool for key positions?
5. What percentage of our workforce moves internally each year between lines of business or functional areas?
6. What percentage of our workforce is promoted annually? How does this compare to our competition?
7. Which lines of business or managers are the best developers of talent as measured by advancement rates?

Workforce Productivity
8. How differently do we pay our top contributors from our average contributors?
9. In the last five years, has workforce productivity increased, decreased, or remained stable?
10. Are we under-staffed in areas, where if we added people, we would increase our productivity?

Diversity
11. How diverse is our managerial population? How does it vary across our lines of business?
12. Is the recruiting pipeline appropriately diverse to ensure diversity in hiring and the workforce?
13. Is our successor pool sufficiently diverse?

Employee Engagement
14. What percentage of our employees are fully engaged and are "doing their best work" on a daily basis?
15. What percentage of our employees would say they are committed to the organization? Why are they committed?
Where are you on the Analytics Maturity Model?

- **Advanced**—proficient at predictive talent analytics to understand the future. Multiple sources of internal and external data.
- **Integrated**—proficient at talent analytics using multiple data sources across business functions.
- **Getting started**—proficient at talent analytics of single-source data. Some dashboards.
- **Foundational**—proficient at basic compliance reporting.

For those doing it well, it really pays off . . .

<table>
<thead>
<tr>
<th>Mature analytics organizations are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2x more likely to improve their recruiting efforts</td>
</tr>
<tr>
<td>2x more likely to improve their leadership pipelines</td>
</tr>
<tr>
<td>3x more likely to realize cost reductions/efficiency gains</td>
</tr>
<tr>
<td>2.5x more likely to improve talent mobility – moving the right people into the right jobs</td>
</tr>
<tr>
<td>Data driven organizations are</td>
</tr>
<tr>
<td>6% more productive and 5% more profitable</td>
</tr>
</tbody>
</table>

Source: Bersin, 2013; Davenport et al., 2012
Implications for HR

- First time this element has appeared in their study
- Executives in the study indicated **this is the competency that will have the greatest impact** on the business, yet that their **HR partners are currently least effective** at demonstrating

And, I would add… a proponent of analytics and the skills needed to provide organizations with consumable information for fact-based decision making.

**Source:** The State of the HR Profession 2011, RBL Group
At a high level, these capabilities form a sound foundation for analytics.
What’s holding HR back?

- Lack of skills/resources/experience to perform required analytical activities: 30%
- Inappropriate HR operating model: 29%
- Quality of the data: 22%
- Corporate culture: 32%
- Senior management tends to regard evidence-based HR as a fad: 25%
- Difficulty in demonstrating return on investment (ROI) in evidence-based HR: 28%
- Silos within the organization: 27%
- Lack of financial resources: 19%
- Other (please specify): 1%

Time to move forward?

- 86%

Percent of PwC Saratoga members who reported that creating or maturing their people analytics function is a strategic priority over the next 1-3 years.

The next step...HR Data Scientists...

• HR is increasingly seeking individuals with advanced degrees and experience working with statistical tools and models to improve the impact of talent data.

• Who are they? Statisticians, business intelligence, I/O psychologists, econometricians, consumer marketing and even musicians and artists.

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What skills are required?

- **Persuasive:** Aware of the importance of visualization of data analysis in order to lead the viewer to the required decisions. Able to tell a story with data using facts, opinion, anecdote and metaphor. Makes the analysis come to life.

- **Questioning:** Able to frame hypotheses with business leaders. Doesn’t need to be a data scientist, but will want access to someone with those skills.

- **Systems Thinker:** Capable of understanding how people drive value in the organization and can distinguish cause from effect, as well as able to interpret the downstream consequences of past, present and future interventions.

- **Creativity:** Ability to look at a problem in a variety of ways — including visualization. Understanding that answers exist outside of basic metrics. Being able to identify hidden internal/external variables impacting people and the organization. Asking questions outside the normal realm.

**SOURCES:**
The next generation of HR is here...

Responsibilities:

In this new and challenging role as HR Analytics Analyst, you will support evidence-based decision-making on the Human Capital. Together with your colleagues, you'll provide strategic and analytical support to senior management and HR. You'll also be expected to provide quantitative perspectives on discussions on new and existing HR processes and procedures.

The HR Analytics Team's mission is to identify people-related opportunities and risks by combining analysis of HR data and business data. The team works seamlessly across the organization and provides insights within the team is results driven, reform-minded, highly supportive, and has high standards on data privacy.

As a front runner in HR Analytics, we are cooperating with universities, applying the latest scientific findings to Shell.

Further responsibilities:

- Execute advanced and predictive analytics, e.g., regression analysis, multi-level analysis, factor analysis, decision tree and longitudinal analysis
- Identify statistical analysis techniques required to deliver HR insights
- Deliver high-quality analysis, reporting, and presentations
- Collaborate with subject matter experts across HR and the business
- Comprehend scientific publications and translate them into Shell context
- Develop material for and train HR professionals in evidence-based HR

Requirements:

- Master's Degree in a mathematical field such as Statistics, Econometrics, Operations Research or Applied Mathematics
- Experience with analyzing large amounts of data and consulting clients
- Experience with formulating hypotheses, interpreting and communicating results
- Experience with executing advanced and predictive analytics

We are looking for someone to drive HR employee-related insights at the company's business level and analyze HR data and other business data to support business decisions.

Shell

Job Scope

This role will have responsibility for building and managing a global HR reporting service and tools, leading the development of HR reporting and data, and building predictive models. The insight from this analysis will be used to drive HR investments and talent management decisions, and assess the organization's program effectiveness. The position will create and actively support cross-functional data sets of internal and external data and communicate the results across the organization in a way that informs and drives the organization to action.

Duties & Responsibilities

- Deliver reporting solutions - Provide expert level consulting and management of expert level consultants to identify and support HR and business reporting and data needs, initiate and prioritize reporting tool enhancement, and prepare report and reporting solution specifications.
- Build partnerships with development teams - Work closely with internal technology teams and vendors to deliver tools and system solutions, provide monthly review and assessment of the business solution performance and adoption
- Responsible for the design and implementation of self-service reporting tools and data management that reflects the complexity of multiple separate and unique networks, inconsistent business unit platforms, and the complexity of global company
- Responsible for the design and maintenance of HR analytics
- Provide leadership in the identification and description of reporting required to make HR investment and talent management decisions and recommendations regarding the creation of analytical reports to achieve client, program, and business objectives for resource optimization.
- Summarize written findings, publicize results, and participate and share with senior leadership as appropriate.
- Lead the interpretation of human data in order to identify significant differences, relationships, and trends in data, as well as factors that could affect the results of research. Report results of statistical analyses in the form of graphs, charts, and tables.
- Develop predictive models for attention, high performance, and recruiting demand
- Develop, own, and optimize existing HR reports (e.g., HR Scorecard, HR Functional Dashboard, etc.) to drive meaningful business results
- Manipulate and analyze large datasets using analytical features of multiple tools
- Identify statistical analysis techniques required to deliver insights.
- Advance the use of complex analytical techniques and statistical thinking across human resources.
- Serve as an active participant on cross-functional project teams, and provide guidance and training to teams in answering questions, interpreting data, and translating it into action.
- Develop and maintain appropriate benchmarks with other organizations.

Job Title: HR Analytics Analyst

Location: United States

In the field: publications, public speaking, research

Skills:
- Master's Degree in a mathematical field such as Statistics, Econometrics, Operations Research or Applied Mathematics
- Experience with analyzing large amounts of data and consulting clients
- Experience with formulating hypotheses, interpreting and communicating results
- Experience with executing advanced and predictive analytics

In statisical analysis software (e.g., SPSS, Excel)

Apply online today at www.shell.com/careers.

Baker Tilly

Baker Tilly refers to Baker Tilly Virchow Krause, LLP, an independently owned and managed member of Baker Tilly International.
Stop using analytics to "prove the worth of HR"

Remember: Test a hypothesis from the business
“Don’t allow ‘perfect’ to be the enemy of ‘good’ ”

- Voltaire

“If it’s worth doing, it’s worth doing badly”

- G. K. Chesterton
Technology can only take us so far . . .

“Computers are useless. They can only give you answers.”

-Pablo Picasso

“Action is the foundational key to all success.”

-Pablo Picasso

Let’s reflect . . .

• The human capital storm is here: talent scarcity creating supply/demand pressure

• As a result, the C-suite is paying attention to human capital, and HR is beginning to deliver on “big data” and talent analytics

• Analytics are not necessarily a new concept, but technology and data abundance have brought it to the fore as an insightful tool

• Analytics allow HR to get in front of trends and add tremendous value – don’t try to prove the worth of HR – focus on strategic organizational issues

• HR must acquire the right tools and empower the right people to work on these initiatives, and remember: “Don’t let the perfect be the enemy of the good”
Please feel free to continue the conversation