

Modern HR: Embracing Talent Analytics



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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**

April 2016

5.4 million jobs unfilled

July 2014

4.6 million jobs unfilled

Jan 2014

3.7 million jobs unfilled

That's about **1.5** unemployed people for every open job !

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**

We have the attention of the CEO

1. Human Capital

2. Innovation

3. Customer Relationships

4. Operational Excellence

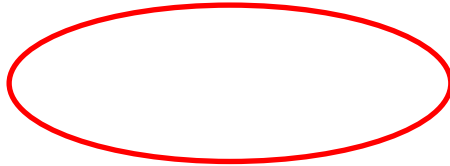
5. Sustainability

	Global N=943	Challenges 2015	United States N=230	Europe* N=133	Asia N=332	China N=99	India N=100	ASEAN N=121	Latin America N=80
1		Human capital	1	2	2	1	1	1	1
2		Innovation	4	3	1	2	5	4	4
3		Customer relationships	2	1	3	5	6	3	3
4		Operational excellence	3	4	4	4	2	2	2
5		Sustainability	10	9	5	3	4	6	9

THE CONFERENCE BOARD



What is HR doing about it ?

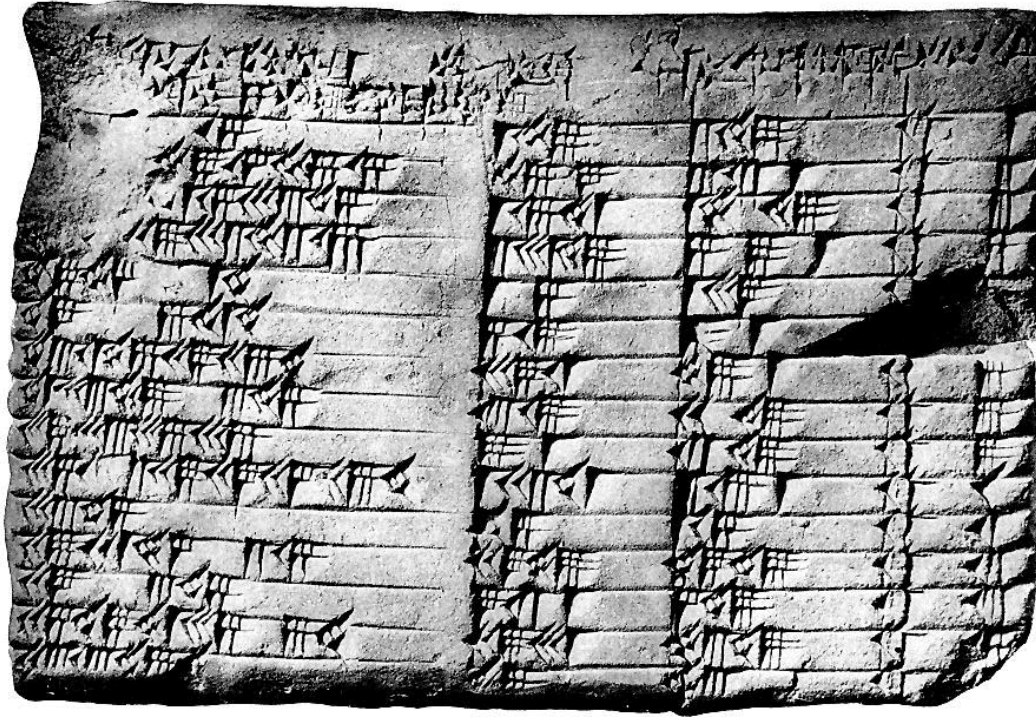




Investigating the Evolution of Talent Analytics

Reporting and Analytics have been around while...

Babylonian tablet 1800 BCE



... there were some 'enhancements' over about 4,000 years

Farm Census 1850

SCHEDULE 4.—Productions of Agriculture in *12th District* **in the**
enumerated by me, on the *23rd* **day of** *August* **1850.**

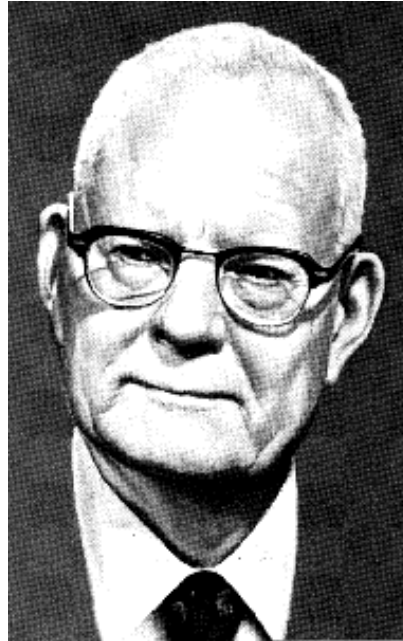
Text Orientation!	Acres of Land.		Cash value of Farm.	Live Stock, June 1st, 1850.										Produce during the				
	Improved.	Unimproved.		Value of farming implements and machinery	Horses.	Asses and Mules.	Milch Cows.	Working Oxen.	Other Cattle.	Sheep.	Pigs.	Value of Live Stock.	Wheat, bushels of.	Rye, bushels of.	Indian Corn, bushels of.	Oats, bushels of.	Rice, lbs. of.	Tobacco, lbs. of.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 <i>Wm L Gilbert</i>	<i>15</i>	<i>65</i>	<i>350</i>	<i>8</i>	<i>3</i>		<i>2</i>		<i>2</i>	<i>5</i>	<i>15</i>	<i>170</i>						
2 <i>Jarvis Philips</i>		<i>50</i>	<i>300</i>		<i>3</i>							<i>120</i>						
3 <i>Wm Philips</i>		<i>50</i>	<i>300</i>															
4 <i>Michael Gilbert</i>	<i>45</i>	<i>195</i>	<i>1000</i>	<i>125</i>	<i>7</i>		<i>6</i>		<i>13</i>		<i>30</i>	<i>460</i>	<i>900</i>		<i>100</i>	<i>4600</i>	<i>1000</i>	
5 <i>John Steel</i>	<i>170</i>	<i>157</i>	<i>1585</i>	<i>90</i>	<i>4</i>		<i>5</i>		<i>26</i>	<i>15</i>	<i>15</i>	<i>340</i>	<i>600</i>		<i>150</i>	<i>4600</i>	<i>1000</i>	
6 <i>Lewis of Peter H. Helms</i>		<i>253</i>	<i>1000</i>															
7 <i>Silas Gilbert</i>	<i>25</i>	<i>15</i>	<i>300</i>	<i>15</i>	<i>2</i>		<i>2</i>		<i>1</i>	<i>12</i>	<i>20</i>	<i>130</i>	<i>500</i>		<i>40</i>	<i>4680</i>	<i>3000</i>	
8 <i>Stephen Gilbert</i>	<i>18</i>	<i>142</i>	<i>500</i>	<i>85</i>	<i>2</i>		<i>3</i>		<i>3</i>		<i>18</i>	<i>210</i>			<i>60</i>	<i>46</i>		
9 <i>Jarvis & Dublin</i>				<i>15</i>	<i>2</i>		<i>3</i>		<i>2</i>	<i>8</i>	<i>6</i>	<i>135</i>			<i>50</i>	<i>46</i>	<i>50</i>	
10 <i>Thomas G Dublin</i>	<i>40</i>	<i>200</i>	<i>960</i>	<i>110</i>	<i>6</i>	<i>1</i>	<i>4</i>	<i>4</i>	<i>3</i>	<i>30</i>	<i>12</i>	<i>430</i>	<i>200</i>		<i>75</i>	<i>46</i>	<i>50</i>	

Cell
Location

Merged Cell Column
Headings !

Last 75ish years brought us integrated business analytics...

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



W.E. Deming

Statistics and Quality Hero

“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.”

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...

Google

Free Agents

Position: All | QB | RB | WR | TE | FLEX | D/ST | K
Availability: All | Available | On Waivers | Free Agents | On Rosters
Watch List: All | On Watch List | Not On Watch List
Last Name: Search Clear Teams: All
Waiver Order (2)

OVERVIEW

NEWS

PROJECTIONS

SCHEDULE

RANKS

PLAYERS	STATUS	WK 1	2012 SEASON				WEEK 1						
PLAYERS, TEAM POS	TYPE	ACTION	OPP	STATUS ET	PRK	PTS	AVG	LAST	PROJ	OPRK	%ST	%OWN	+/-
Josh Freeman, TB QB	FA		@NYJ	Sun 1:00	13	233	14.6	--	--	6th	4.2	36.9	+0.1
Carson Palmer, Ari QB	FA		@StL	Sun 4:25	18	214	13.4	--	--	15th	3.5	25.5	+1.4
Ryan Fitzpatrick, Ten QB	FA		TRANSACTION						--	4th	0.0	0.4	+0.3
Philip Rivers, SD QB									--	13th	2.8	25.2	+4.7
Christian Ponder, Min QB									--	20th	1.3	4.0	+0.6
Jay Cutler, Chi QB									--	5th	4.3	30.9	+2.5
Ryan Tannehill, Mia QB									--	20th	2.7	17.2	+1.4
Michael Crabtree*, SF WR									--	18th	0.6	3.7	+0.2
Chargers D/ST D/ST									--	7th	5.0	11.7	+2.5
Brandon Weeden, Cle QB									--	17th	0.7	2.7	+0.7
Jason Hanson, FA K									--	--	0.2	0.3	+0
Laurence Tynes, TB K									--	11th	2.7	3.7	+3.6
Shayne Graham, Cle K									--	18th	1.0	1.8	+0.4
Michael Turner, FA RB									--	--	0.9	21.0	+2.7
Connor Barth*, TB K IR									--	11th	2.2	2.8	+4.4

Adam Vinatieri

Indiakpolis Colts
ELIG: K
STATUS: FA
PRK: 15 AVG: 7.5
NOVIN: 5.0 (+0)
Health

ESPN Projections

2013 SEASON

120

Yds: 0/0/0, TDs: 0

In the twilight of his career, Vinatieri has a chance to team up with Andrew Luck, but the hard truth is that the formerly heroic kicker was rarely a fantasy stud even when Peyton Manning was setting him up. He did have seven attempts of 50-plus yards.

Kicking 1

WK	OPP	FGM	FGA	XPM	PTS
1	@Chi	0	1	3	2
2	Min	3	3	2	14
3	Las	1	2	2	4
4	Brv	-	-	-	-
5	GB	3	4	1	11
6	@NYJ	3	3	0	12
7	Cle	1	1	2	5
8	@Ten	2	3	1	7
9	Mia	3	5	2	11
10	@Car	2	2	3	10
11	@SF	1	2	3	6
12	Buf	2	2	2	8
13	@Det	0	0	5	5
14	Ten	2	2	3	12
15	@Cin	1	1	2	5
16	@KC	2	2	2	9
17	Hou	0	0	4	4

00 steps

20000 steps

underweight

by types

all or underweight

eight

Save Settings

Movies, TV shows, actors, directors, genres

We are literally swimming in data

Every 2
much in
from the



s
id
e

until 2003

Over 90%
in the w
th



ed
n

If you
create
DVDs, you could stack them on
top of each other and reach the
moon, twice.



e data
y onto

The point of this little parable ?

What the heck
is water ?

- Sometimes what's most vital is all around us – but tricky to see

It's just like water for the fish,
the workforce data you are
unconsciously swimming in
might be extremely valuable
– **So, how's the water?**



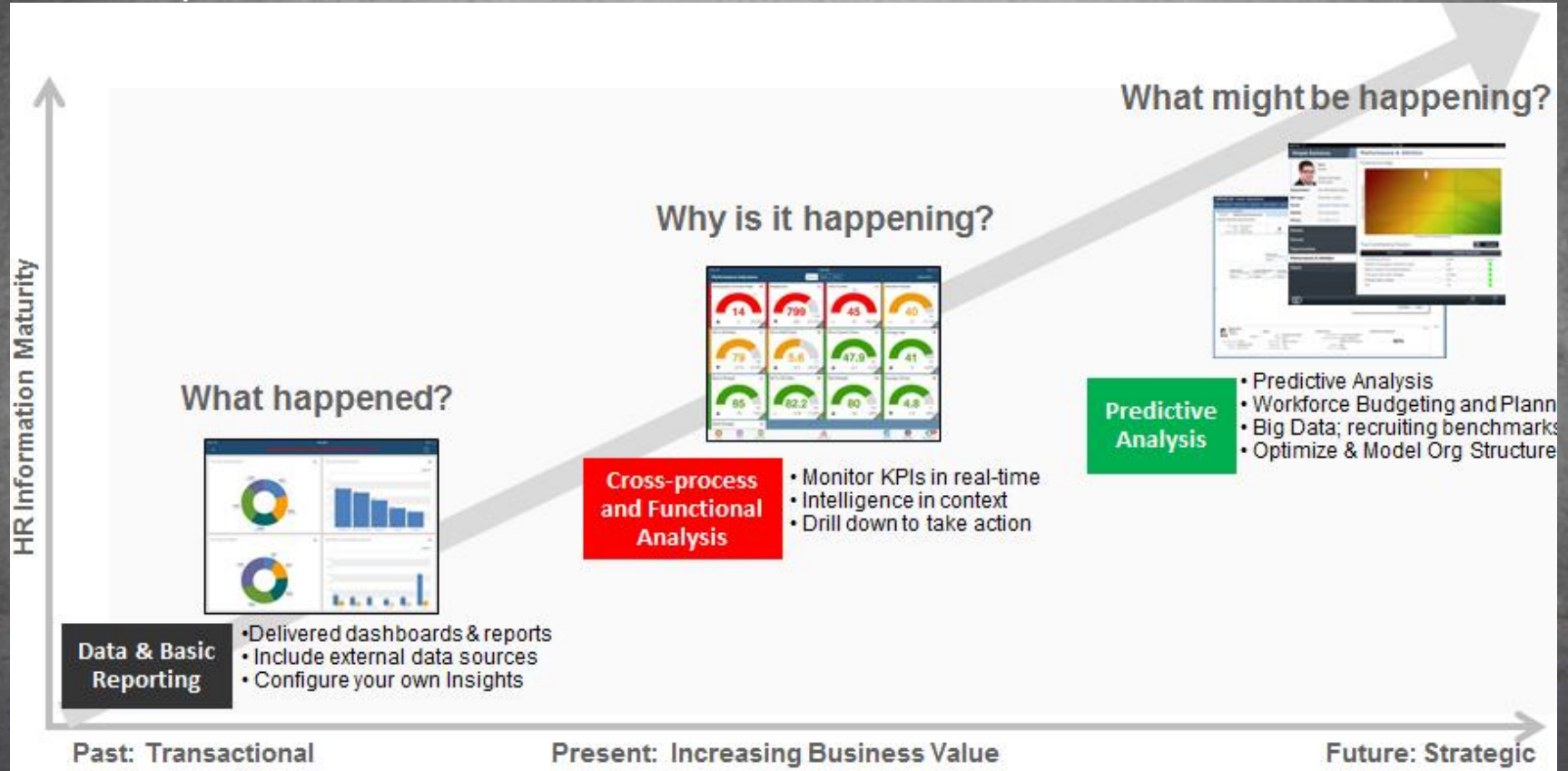
So.....

How is HR leveraging
data to deliver Talent
Insights?



The Evolution of Talent Analytics

From Descriptive to Predictive





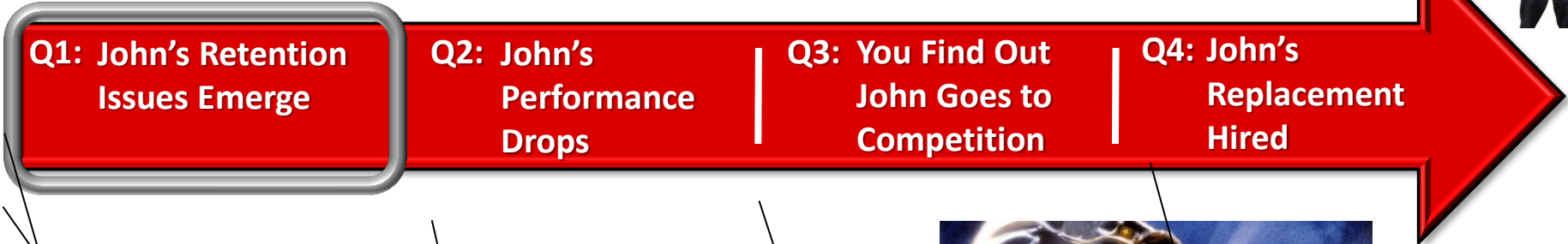
HR tends to react after the ball has already been hit

**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...



• 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%**

Mean of responses from 410 corporate officers

"How much more does a high performer generate annually than an average performer?"



Source: McKinsey War for Talent 2000



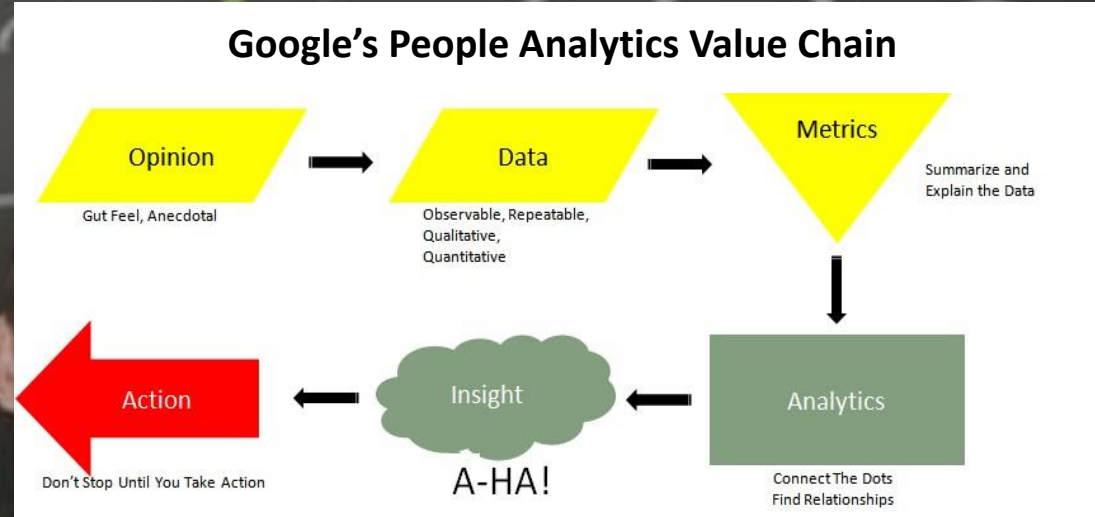
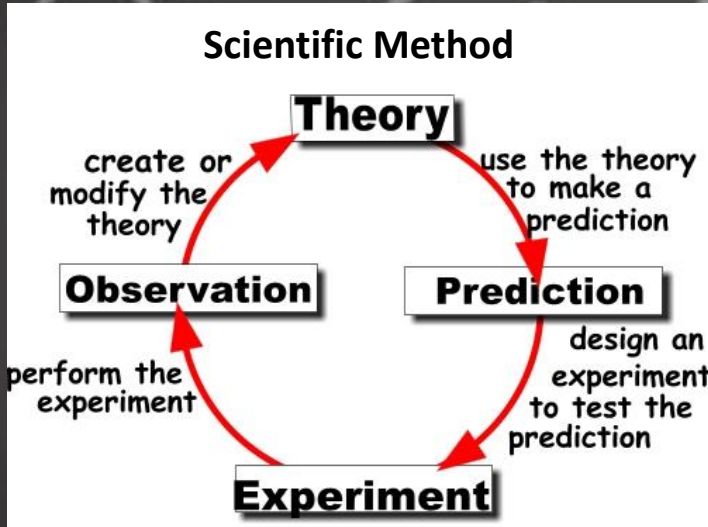
- Hiring / recruiting costs
- Training costs
- Lost productivity costs
- Overworked remaining staff
- Lost knowledge

Saratoga Institute, 2008

That's the power of talent analytics . . .

How do organizations do this?

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



Now a couple of examples....

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 on-going 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)

Future (eg, predictive)

70

Trends (eg, sales)

43

Scenario (eg, performance)

41

Cross-functional (eg, flowchart)

32

Current status (eg, quality)

23

Historical (eg, energy use)

20

Qualitative (eg customer experience)

18

Real time (eg, customer interactions)

10

Source: Economist Intelligence Unit survey, August 2012.

So, how do we formulate forward looking insights?



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?

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 the industry?
7. Which lines of business or managers are the best developers of talent as measured by the number of high potential employees they develop?

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 remain
10. Are we under-staffed in areas, where if we added people, we would increase ou

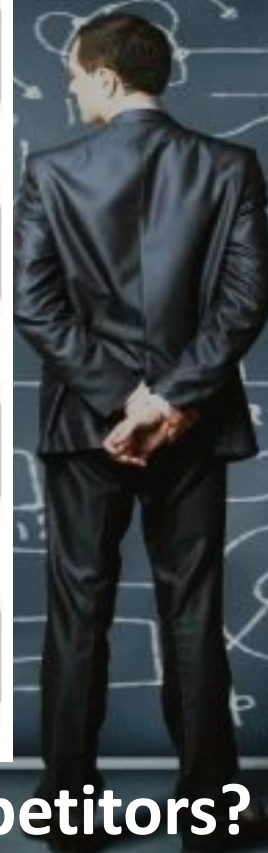
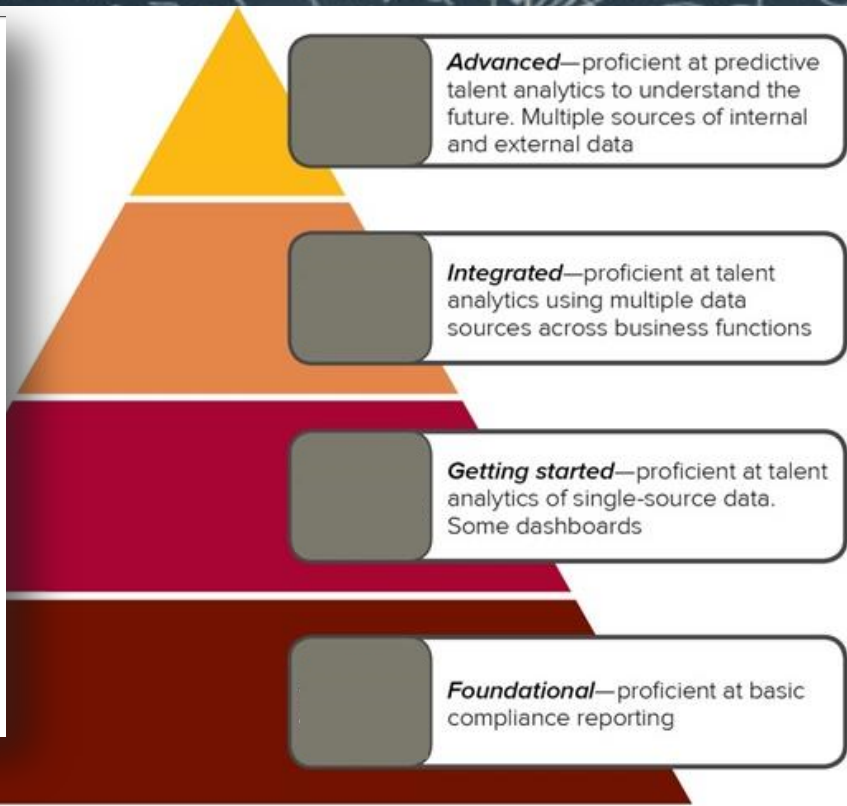
11. How diverse is our managerial population? How does it vary across our lines of business?
12. Is the recruiting pipeline appropriately diverse to ensure diversity in hires and promotions?
13. Is our successor pool sufficiently diverse?

14. What percentage of our employees are fully engaged and are "doing their best work at" of business?

15. What percentage of our employees would say they are committed to the organization? Why are they com

[illegible]

Where are you on the Analytics Maturity Model?



Where are your competitors?

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

Mature analytics organizations are:

2x more likely to improve their recruiting efforts

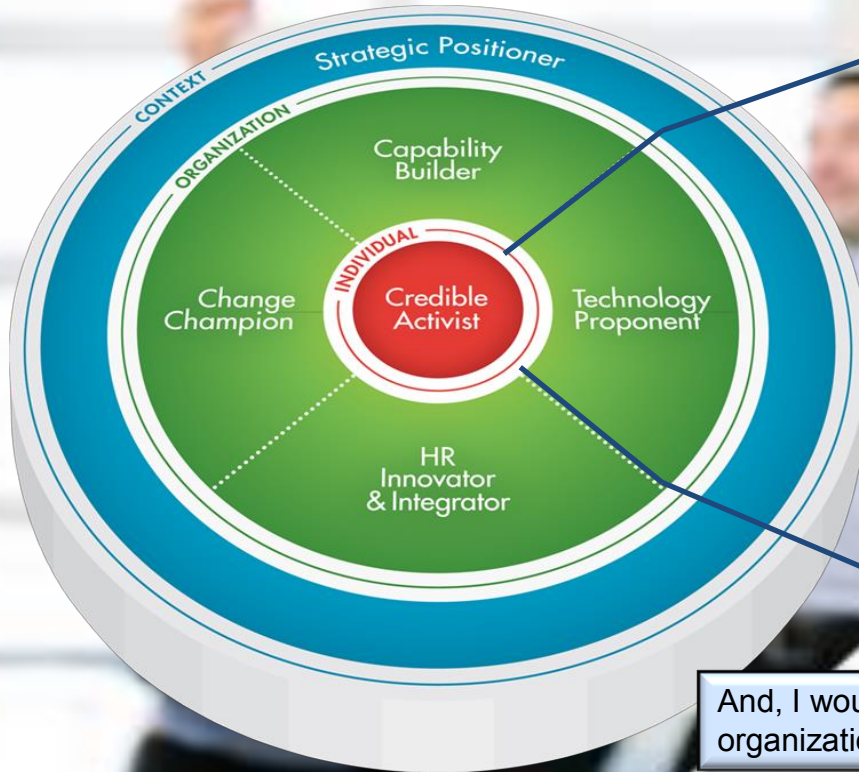
2x more likely to improve their leadership pipelines

3x more likely to realize cost reductions/efficiency gains

2.5x more likely to improve talent mobility – moving the right people into the right jobs

Data driven organizations are
6% more productive and 5% more profitable

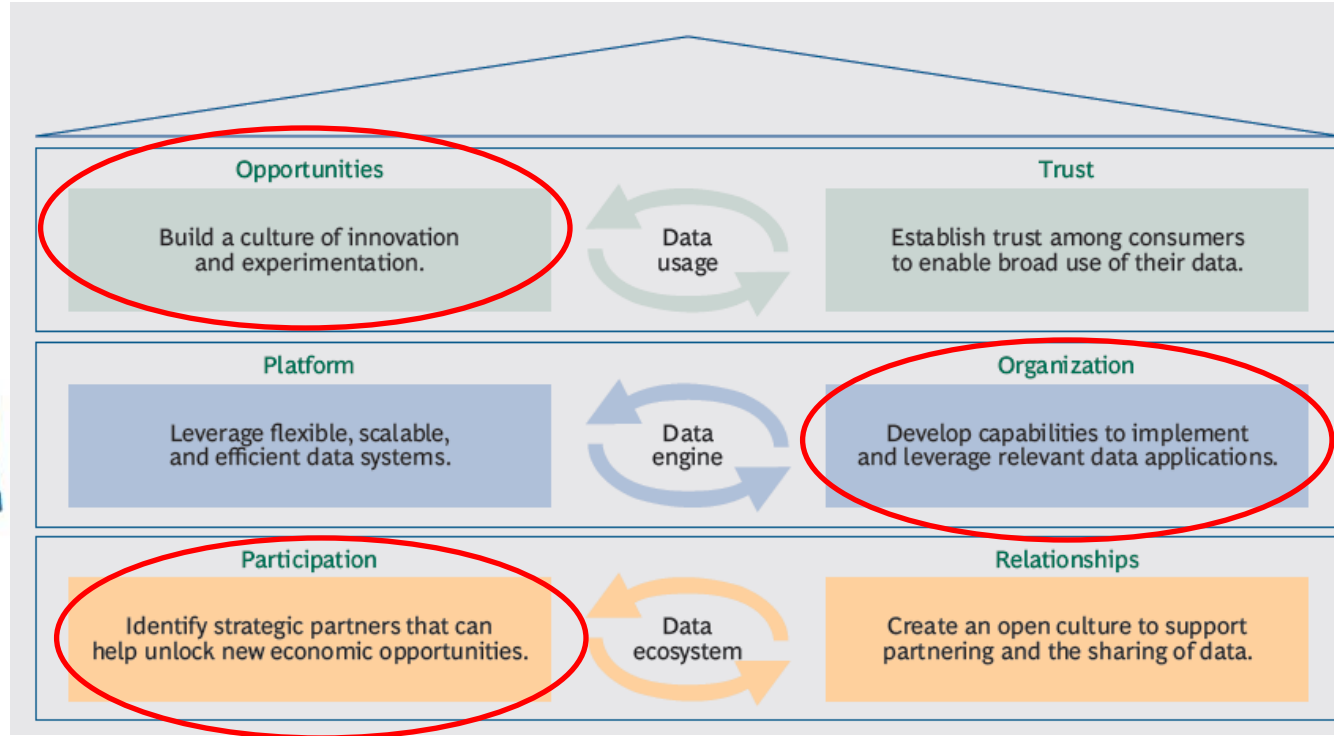
Implications for HR



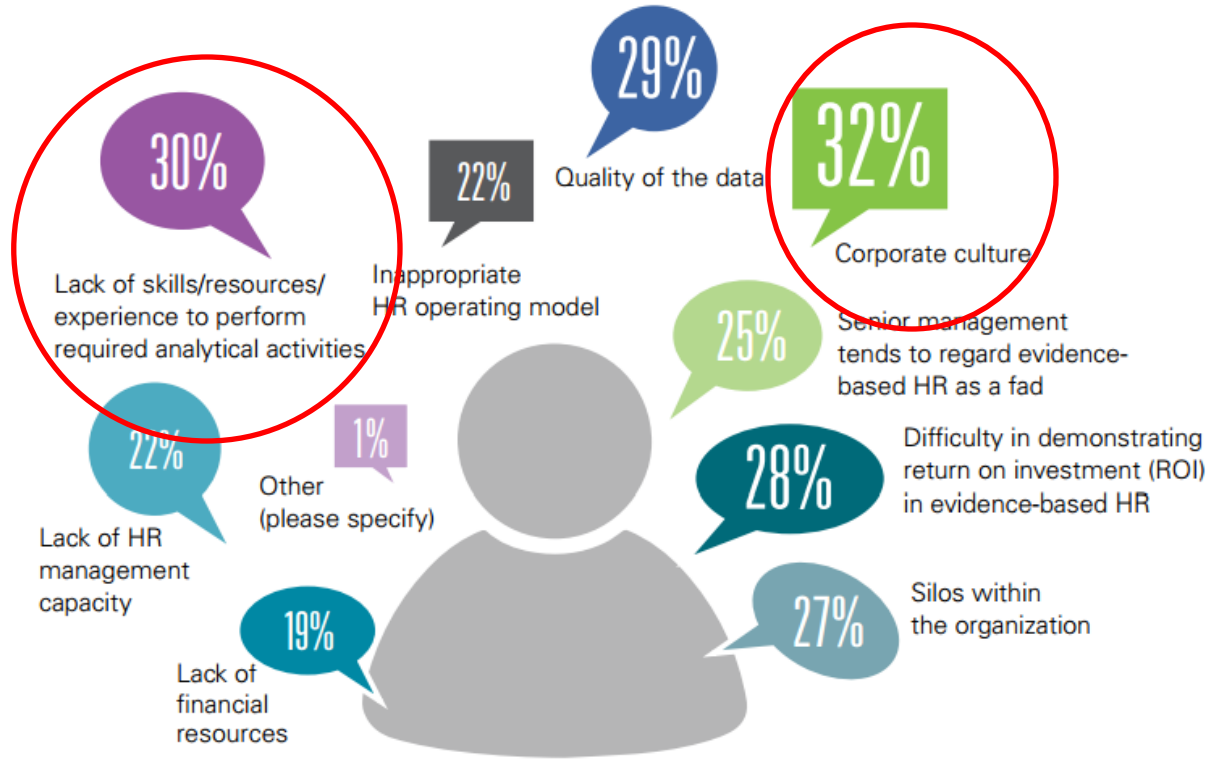
- First time this element has appeared in their study
- Executives in the study indicated **this is the competency that will have the greatest impact** on the business, yet that their **HR partners are currently least effective** at demonstrating

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

At a high level, these capabilities form a sound foundation for analytics



What's holding HR back ?



Source: Evidence Based HR: The bridge between your people and delivering business strategy, 2015

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

Source: PWC/Saratoga Trends in People Analytics (2015)

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



— 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.

The next generation of HR is here...

The value Google places on our employees knows no bounds. We revolutionized search, and now we're redefining human resources in the way we work closely with our management teams to attract, hire, develop and reward talented people. Google's HR team – which we call People Operations – is focused on bringing this discipline to the next level. The people who work with us have a wide variety of talents and experience, including HR, program management, marketing, team management and analytical skills. Our common trait is that we share a commitment to preserving Google's uncommon culture as we continue to grow worldwide.

Google™

amazon



As an analyst on the People Analytics team, you will use data, research and improve existing Career Development, Learning and Talent Management Programs with internal clients to design and execute talent-related experiments, launch and improve People Operations processes and solve HR-related challenges created by our business. You will be a data-driven, results-oriented, conscientious (always follows through on commitments), analytical, and a team player who is excited about using data to drive HR decisions.

Responsibilities:

In this new and challenging role as HR Analytics Analyst you'll support evidenced-based decision making on Human Capital. Together with your colleagues you'll provide strategic and analytical input to senior management and HR. You'll add quantitative perspective to discussions on new and existing HR processes and procedures.

The HR Analytics Team's mission is to identify people related opportunities and risks by combined analysis of HR data and business data. The team works seamlessly across the organization and the culture 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, multilevel 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 businesses
- 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
- Experience with HR data analysis is an advantage but **not** a requirement

Job Scope

This role will have responsibility for building and managing a global HR reporting service and tools, leading the detailed statistical analysis of our Human Capital to identify actionable insights, and building predictive models. The insight from this analysis will be used to drive HR investments and talent management decisions, and assess HR program effectiveness. The position will create and statistically analyze large 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-services 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 attrition, 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 analytic 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 asking appropriate questions, interpreting data, and translating into action.
- Develop and maintain appropriate benchmarks with other organizations.

Intelligence, data mining or OD work at a leadership level
Marketing, Finance, Economics, Business, I/O Psychology or related field. Ph.D. degree

in the field; publications, public speaking, research
and influencing skills
thorough, mastery of business intelligence or related discipline
high-growth, performance focused environments a plus
and lead large scale projects in fast paced matrix organizations
attention skills: ability to distill and present actionable information from complex
experience in statistical analysis software (e.g., SPSS, Excel)
both experimental and applied research design, including multivariate statistical




BAKER TILLY

**Stop using analytics to
"prove the worth of
HR"**

**Remember: Test a
hypothesis from the
business**





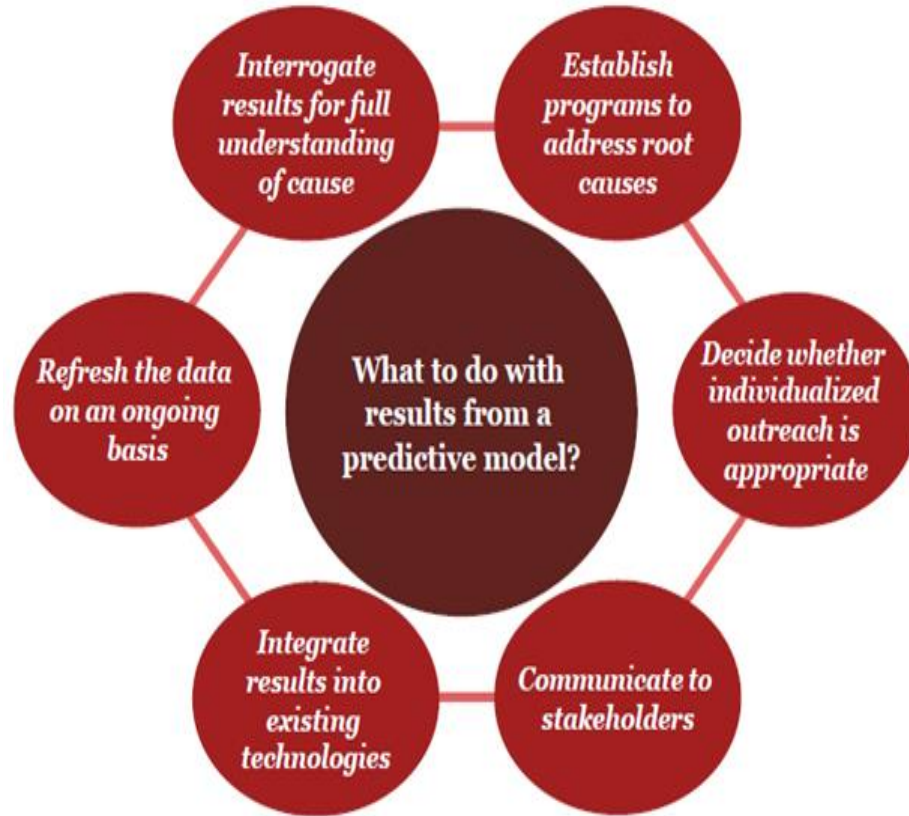
**“Don’t allow ‘perfect’ to
be the enemy of ‘good’ ”**

-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

