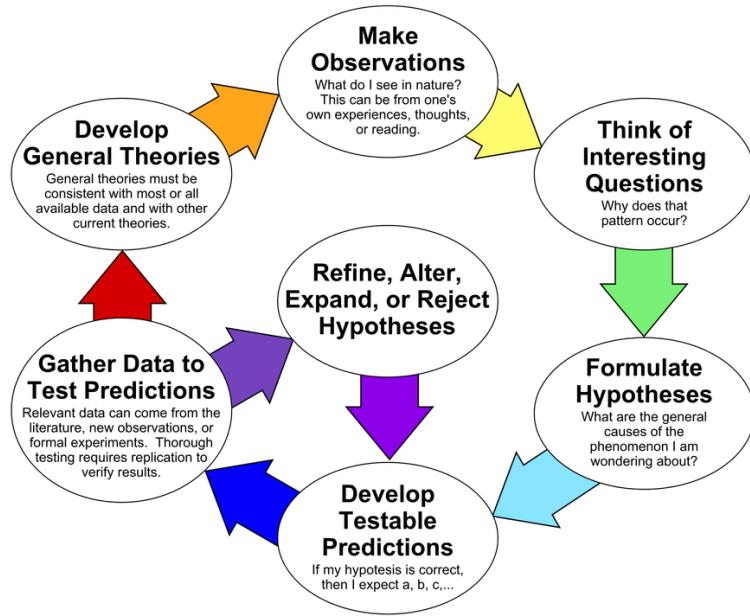


The Scientific Method as an Ongoing Process



Without data you are just another person with opinion (W. Edward Deming)

Without question you are just another Person with data

- Annual Performance Reviews
- Engagement Survey
- The Bonus
- Change Management
- Best Practice
- Rewards Systems
- Others

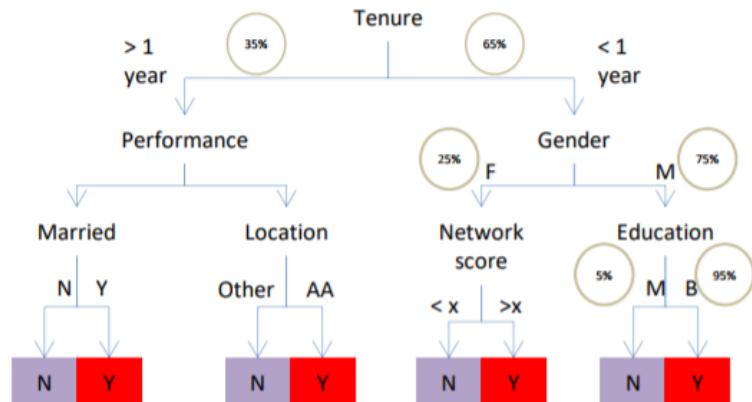


What causes attrition of high performing employees?

People Analytics

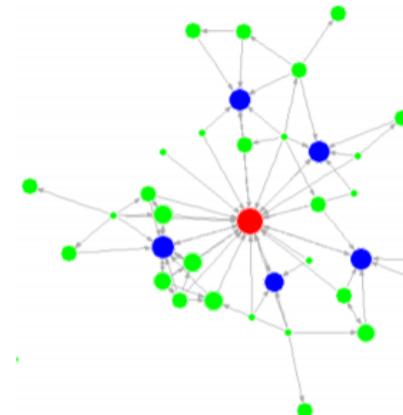
Machine Learning Algorithms

- Decision Trees
- Random Forests
- Logistic Regression

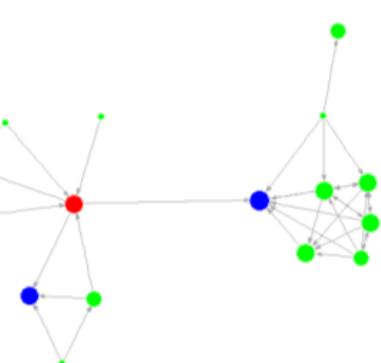


Organization Network Analysis

High performing team



Low performing team





THE QUANTIFIED WORKPLACE

Analytics

TECHNOLOGY VS TRUST?

THE QUANTIFIED WORKPLACE

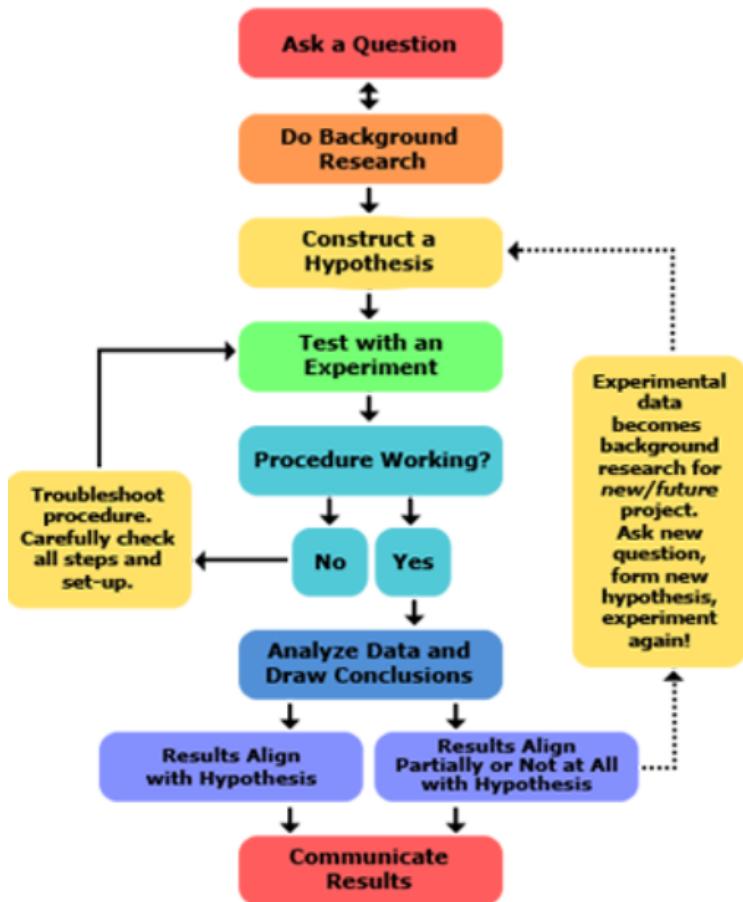
People Analytics

Successful organizations in the future?

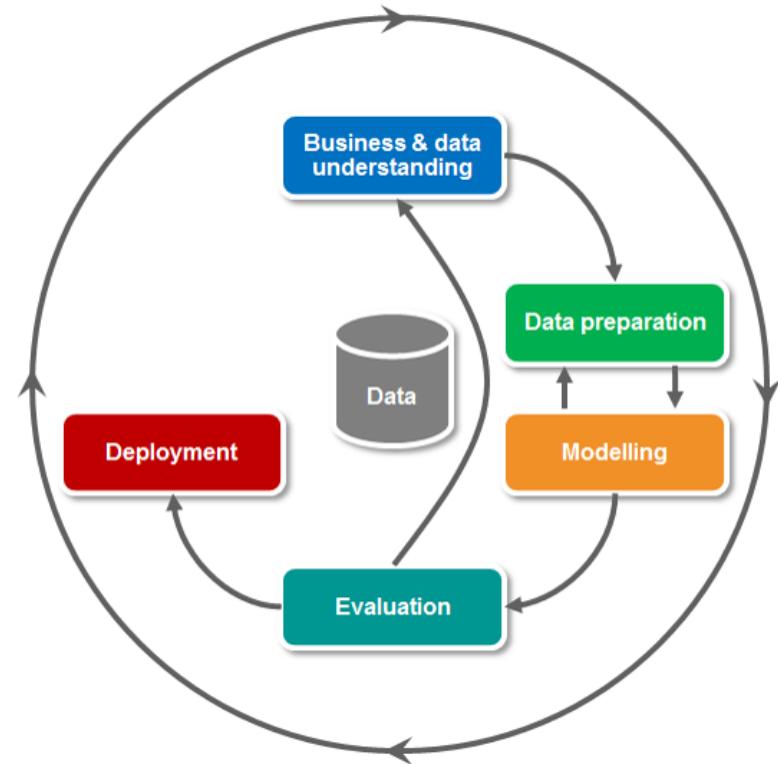
- Challenge existing frameworks, assumptions and ways of working
- Use an evidence-based approach to decision making
- Evolve their strategy and business models
- Have a broad “work” strategy and plan
- Will use insights from behavioral science
- Adopt better management & organization structures

HR Need to be involved in all of these

Scientific Method



Data Science Method

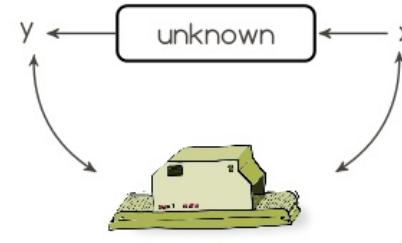


DATA MODELING CULTURE



Find a stochastic model of the data-generating process:
 $y = f(x, \text{parameters}, \text{random error})$

MACHINE LEARNING

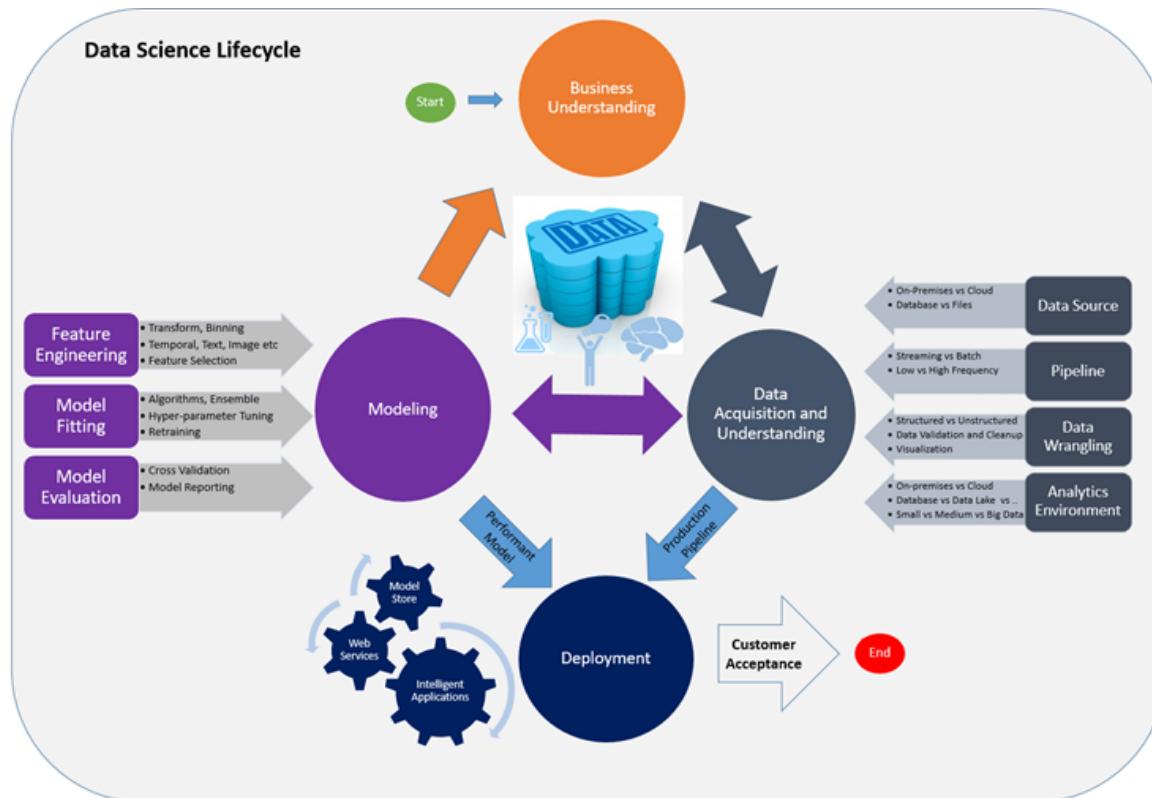


Find a function $f(X)$ that minimizes the loss: $L(Y, f(X))$

STATISTICAL MODELING : THE TWO CULTURES

Leo Breiman's Paper

DATA SCIENCE LIFE CYCLE



Analytics – four stages of maturity

Moving **beyond descriptive statistics to predictions**

Understand data to **gain insights** on our people.

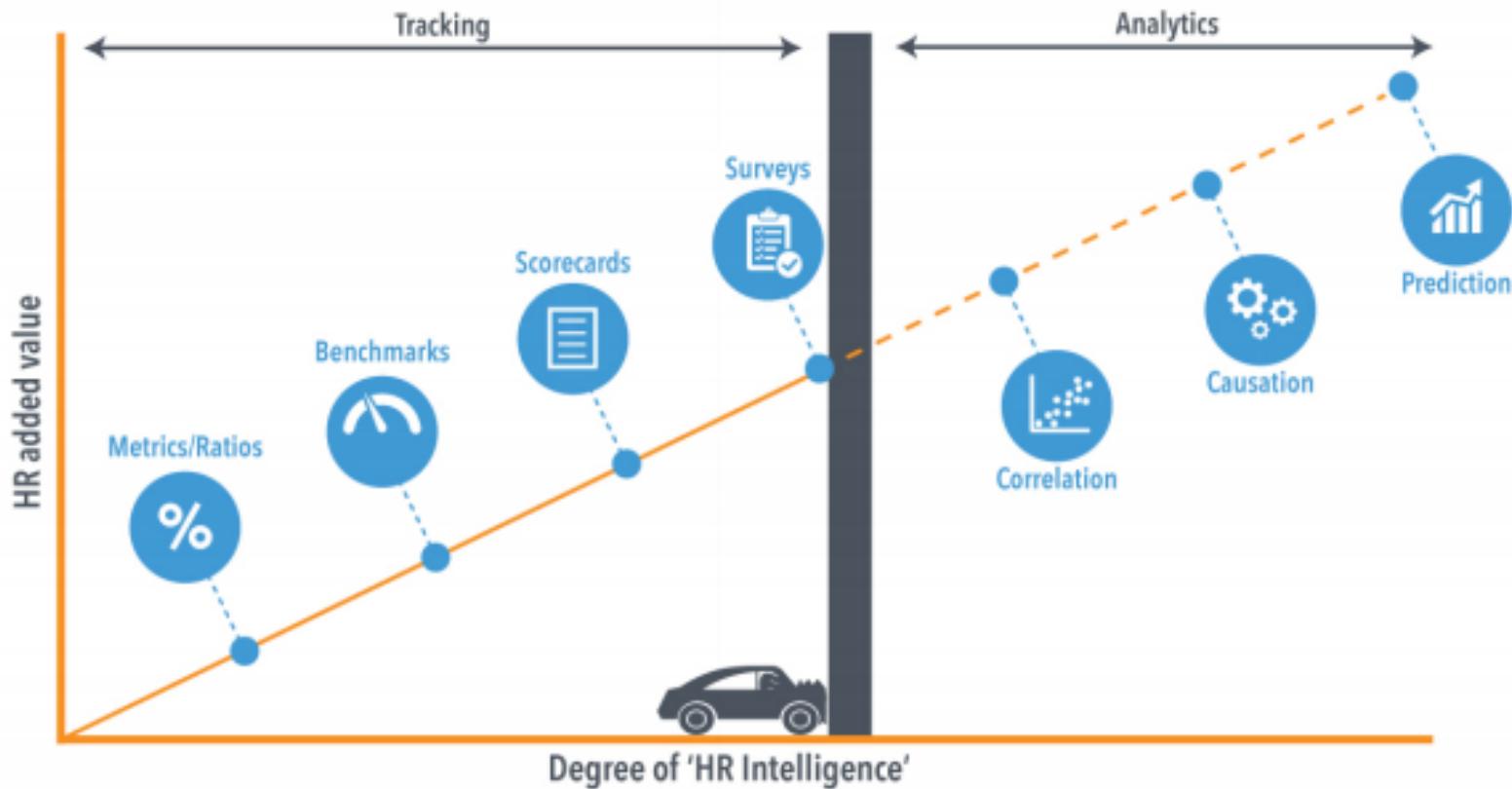
Insights support **better decisions** about our people.

Most HR departments range from maturity level 1 to 3.

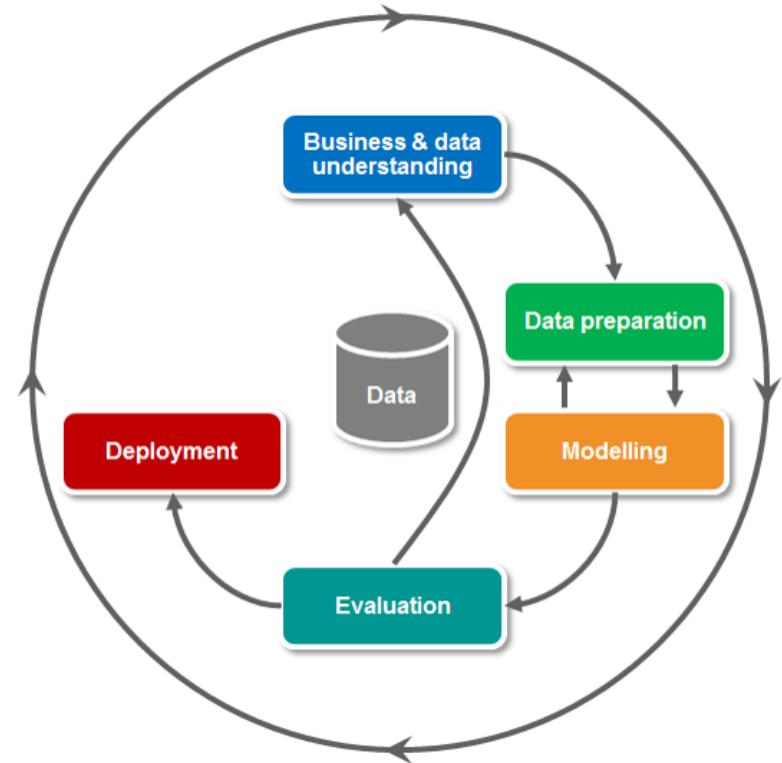
Get good results with descriptive statistics. Predictive analytics offers outstanding results and **new ways HR can deliver business value**.



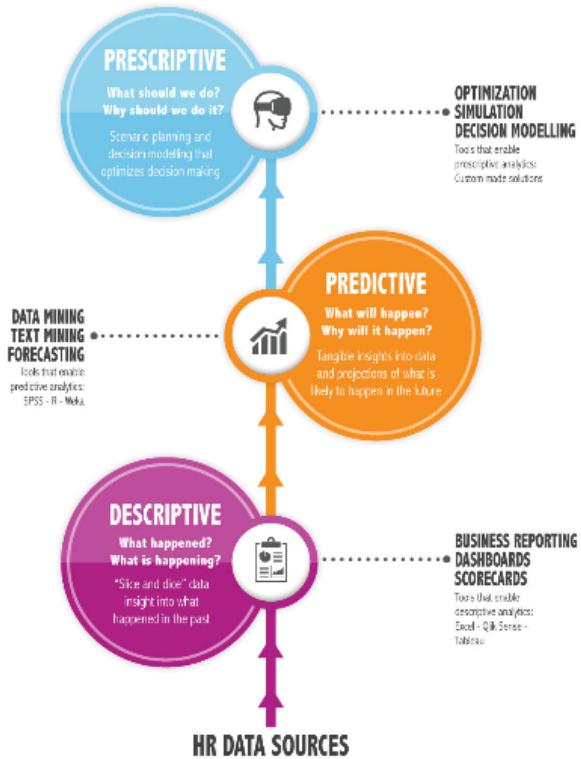
HR is hitting the wall of Boudreau



The People Analytics Cycle



Business Analytics



What is predictive analytics?

Predictive analytics enables data-driven **predictions about the future**. Uses techniques from **statistics, data mining, machine learning** and **artificial intelligence** to analyse **current and historical facts** to make **predictions about future**.

Phase 1: Learning

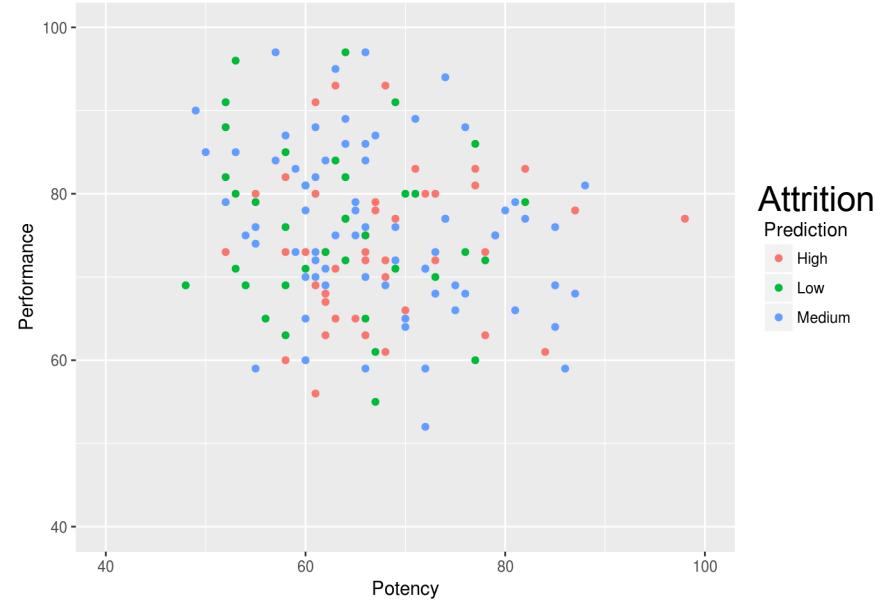
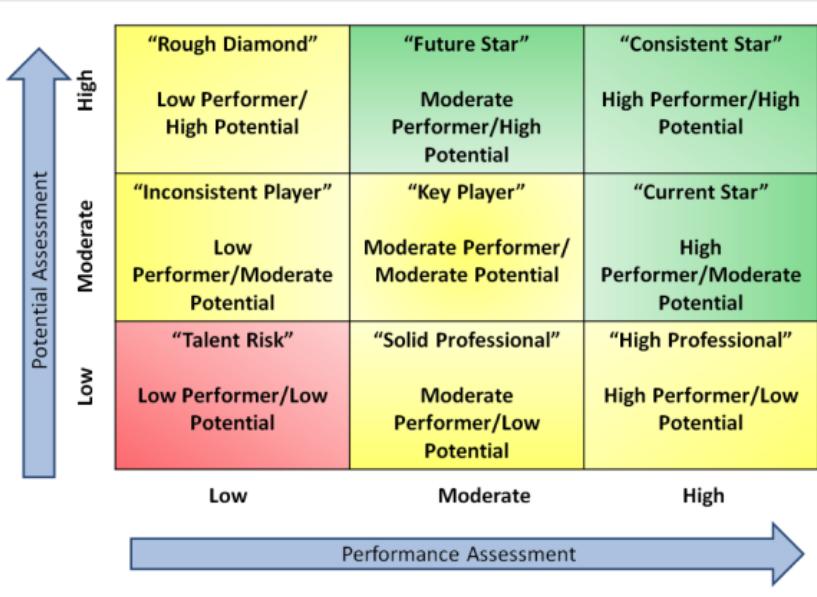


Phase 2: Prediction



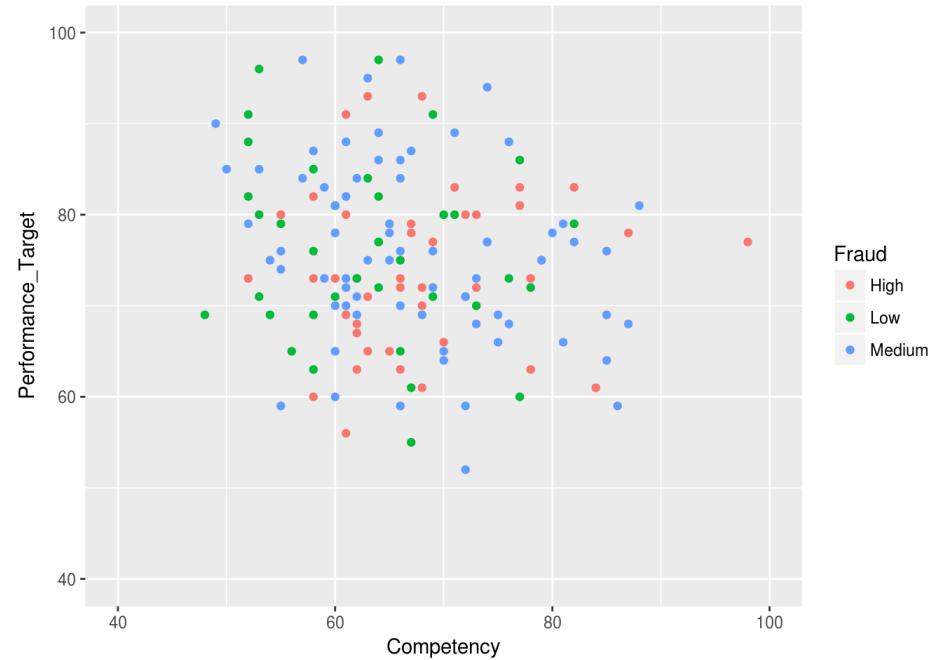
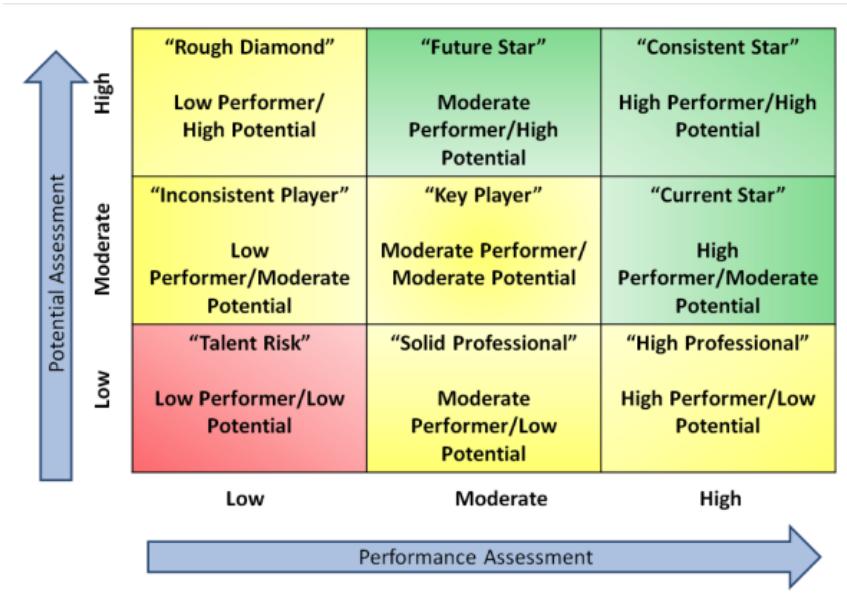
Introduction to Machine Learning, Twitter, Rahul Jain, 2014.

Reinventing Talent Management with Predictive Analytics



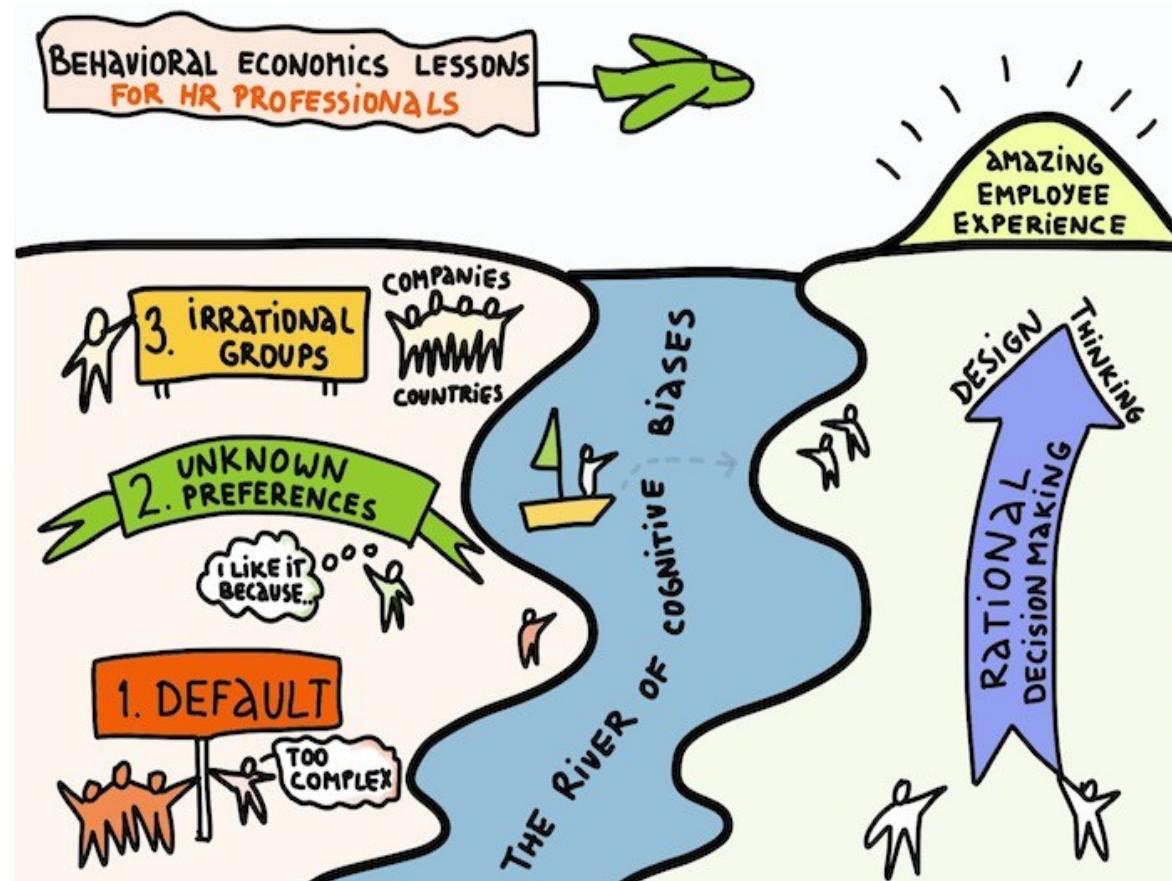
Source : <https://www.linkedin.com/pulse/reinventing-talent-management-predictive-analytics-heru-wiryanto>

Reinventing Talent Management with Predictive Analytics

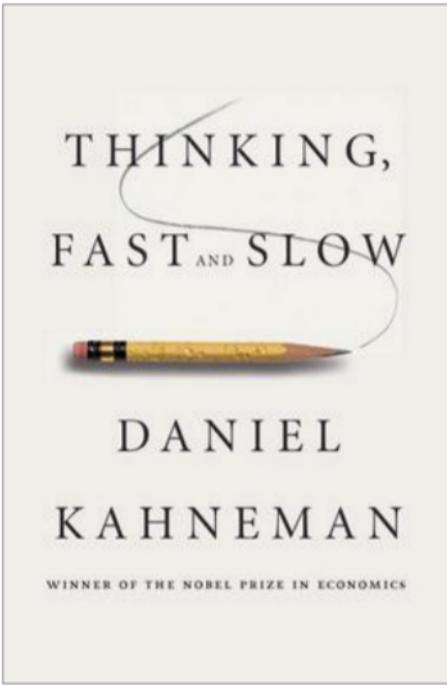


Source : <https://www.linkedin.com/pulse/reinventing-talent-management-predictive-analytics-heru-wiryanto>

Challenges for HR Data Driven : People Analytics



Challenges for HR Data Driven : People Analytics



We prefer “gut feelings” to make people decisions

Challenges for HR Data Driven : People Analytics

Mind-Set is the Key



[HiPPO: Highest Paid Person's Opinion]

HIPPO-driven ➔ Data-driven



Against HiPPO

Challenges for HR Data Driven : People Analytics



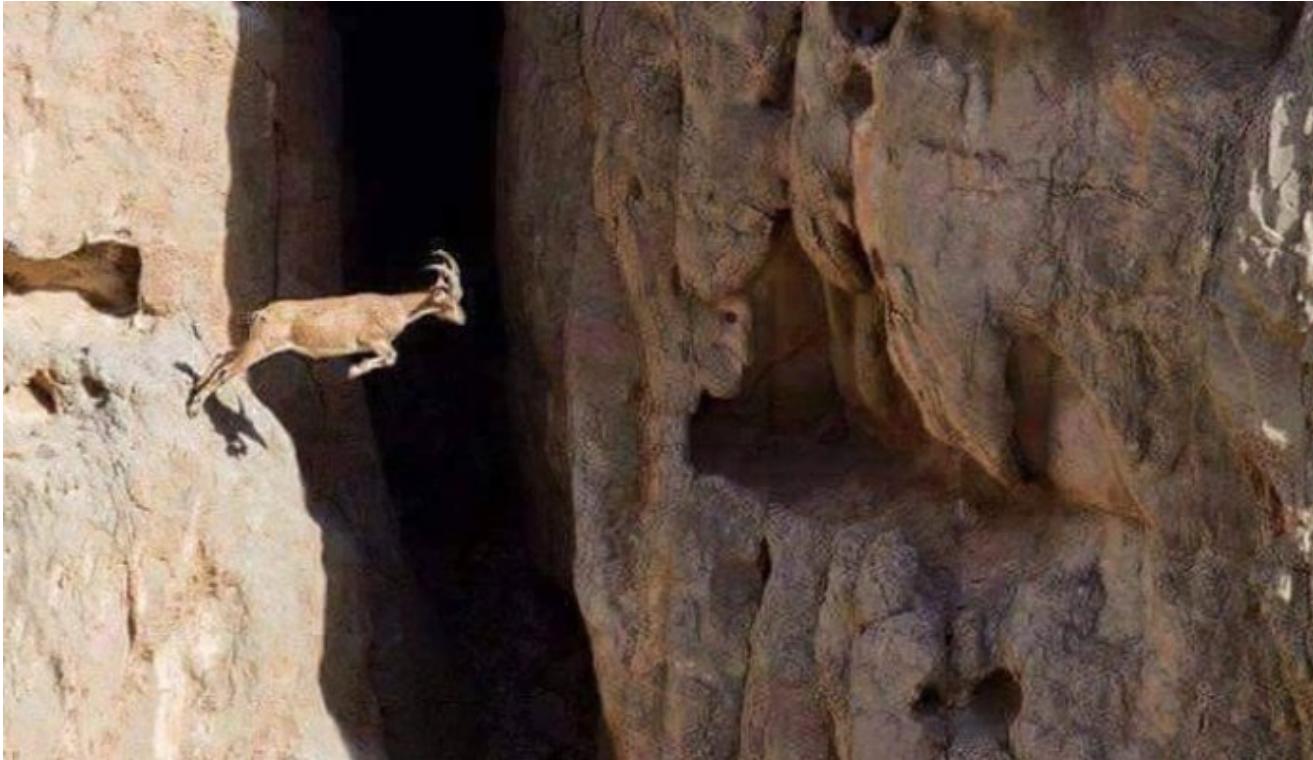
**HR does not need Big Data, or Big Pants,
It needs BIG QUESTIONS**

Challenges for HR Data Driven : People Analytics



We need the right **TOOLS** for the job

Challenges for HR Data Driven : People Analytics



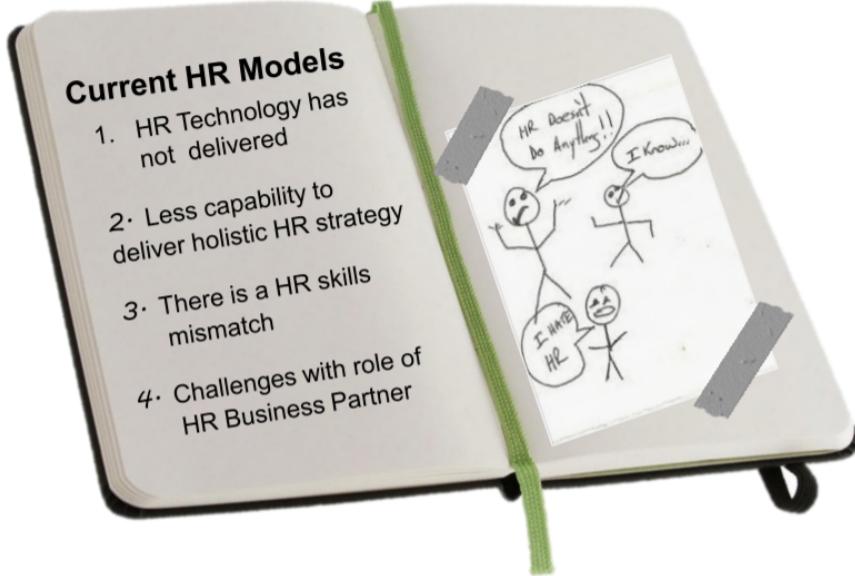
Low confidence in the underlying framework

Challenges for HR Data Driven : People Analytics



What the causes employee productivity?

Challenges for HR Data Driven : People Analytics



Five Reasons : PA Fails

- The Project too ambitious
- Lack relevance of Business
- Bad or Poor Quality of Data
- Compliance was not factored in the from of beginning
- No Translation to actionable insights

**Critique of current HR Operating Models
and Five Reasons People Analytics Project Fails**

| Five Reasons Fails | Solution |
|---|---|
| <ul style="list-style-type: none"> The Project too ambitious | <p>Create short term wins, are the simplest and quickest kind of analysis, requiring the least amount of data but adding the best value to the company. It's important to demonstrate its value in early on in the project by presenting these short-term wins.</p> |
| <ul style="list-style-type: none"> Lack relevance of Business | <p>Only focusing on a top business priority will people analytics provide tangible value. A good rule of thumb is to focus on one of the top 3 business priorities of the CEO</p> |
| <ul style="list-style-type: none"> Bad or Poor Quality of Data | <p>Focus on smaller projects with short term wins as they require less data cleaning. Note data cleaning is very time consuming.</p> |
| <ul style="list-style-type: none"> Compliance was not factored in the from of beginning | <p>The people analytics projects has to be tailored based on both the internal company policies and the external, trans national regulations.</p> |
| <ul style="list-style-type: none"> No Translation to actionable insights | <p>The quick wins are crucial, because they force the project team to define a specific questions whose answer doesn't require huge amounts of data(cleaning), yet also boosts the team's morale and visibility within the same organizations</p> |

Five reasons People Analytics Fail: Possible Solutions

| Challenges | Possible Solutions |
|--|---|
| We prefer “gut feeling” to make people-based decisions | Find the middle group |
| Against Hippo | Build new mindset of data driven |
| HR doesn’t need big data, it needs big questions | Cast your net widely, coach HR on hypothesis testing |
| We need the right tools to do the job | Keep sharing requirements with technology vendors |
| No confidence in the underlying frameworks | Collaborate with academia and peers in other organizations |
| Focus on Productivity | All paths lead to productivity |
| Structural issues with HR Operating Models | Use best available evidence to work out which practices work best |

Challenges People Analytics : Possible Solutions

“The basic premise of the “people analytics” approach is that accurate people management decisions are the most important and impactfull decisions that a firm can make. You simply can’t produce superior business results unless your managers are making accurate people management decisions.”

If you don't agree with the premise and that you don't see the need for managing people in organizations as needing to be data driven, it's unlikely you will see this as a wakeup call and feel a need to respond. Ultimately that is every organization's and HR practitioner's decision and choice.

If you do decide that this is relevant to you personally as an HR practitioner or as an HR function in an organization, or as an organization in general, then I think there are many things that are conducive to moving in the direction of leveraging analytics to make ‘data driven’ people management decisions

How might HR Professionals Respond to This

- Start reading, researching and staying on top of developments in this area.
- Take claim to HR analytics as part of the HR domain.
- See your ‘hands on’ use of the technology to do this as both an extension of who you are as an HR professional and as a tool for increasing your competitiveness.
- Be smart in your use (or not) of prepackaged vendor analytics software solutions.
- Increase your knowledge of statistics and statistical analysis.
- Possibly change your paradigm of HR.

Things To Do

Workforce/ HR/ People analytics are still in their early stages of use and terminology in HR. Even with that being the case, what is at the heart of the use and terminology for this is ‘data driven’ decision making. ‘Data driven’ goes beyond simply producing metrics. It is:

- Being able to take a HR issue or question, understand what data exists around and available for that decision, understand what statistical analyses or summaries are useful to answer that question, presenting that data as part of the decision and decision making process
- Understanding for our existing metrics, why we produce them in the first place and what questions they were intended to answer.
- Being able to take overall metrics, measures, and data and be able to slice and dice understand underlying relationships.
- Making a decision as HR professionals to be ‘data driven’. As I mentioned earlier in this article, the ability to generate datasets of HR data and availability of applying statistical tools has been around for at least 35 years. The technologies have changed and have become more robust, and the amount and scope of data has increased over that period of time. The tools and data needed to do this are not necessarily an obstacle.
- Google is indeed doing some tremendously exciting things in their People practices. They have taken the bold move to increase dramatically their ability to be ‘data driven’ in their HR practices. And they will likely continue to see payoffs for their decisions.

We guess the key question is- **how will Workforce, HR, People Analytics impact you and your organization?**

Final Thoughts