

# Performance Evaluation Analytics

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**Your expectations?**

# Overview

- Introduction to HR analytics
- Performance analytics

# HRM FUNCTIONS

- Human resource planning
- Recruitment
- Selection
- Compensation & benefits
- Performance appraisal
- Training and development
- Employee retention
- Employee relations
- Safety & health and etc...

# What is HR Analytics?

- A data-driven approach to managing people at work.
- Analytics, applied to “people issues” – hiring, performance management, compensation, retention, etc.
- A more rigorous approach to a traditionally “soft” function.
- A quickly growing field.

# What is HR Analytics?

- “the systematic identification and quantification of the people drivers of business outcomes” – Heuvel & Bondarouk, 2016
- “People analytics is using statistics or some data mining technique on combined data sets of HR and the business to find relationships in the data that improve decision making” – Patrick Coolen, 2016
- HR analytics is the application of a methodology and integrated process for improving the quality of people-related decisions in order to improve individual and organizational performance.

# What is HR Analytics?

- Touches all people-related issues in organizations
  - Hiring / Assessment
  - Retention
  - Performance evaluation
  - Learning and development
  - Team composition
  - Etc.

# What is HR Analytics?

- Technical progress – data availability, processing power, analytical tools, etc.
- Growing recognition of behavioral biases.
- Increasingly, a firm's greatest assets are its people.



# Two facets of data analytics in HR

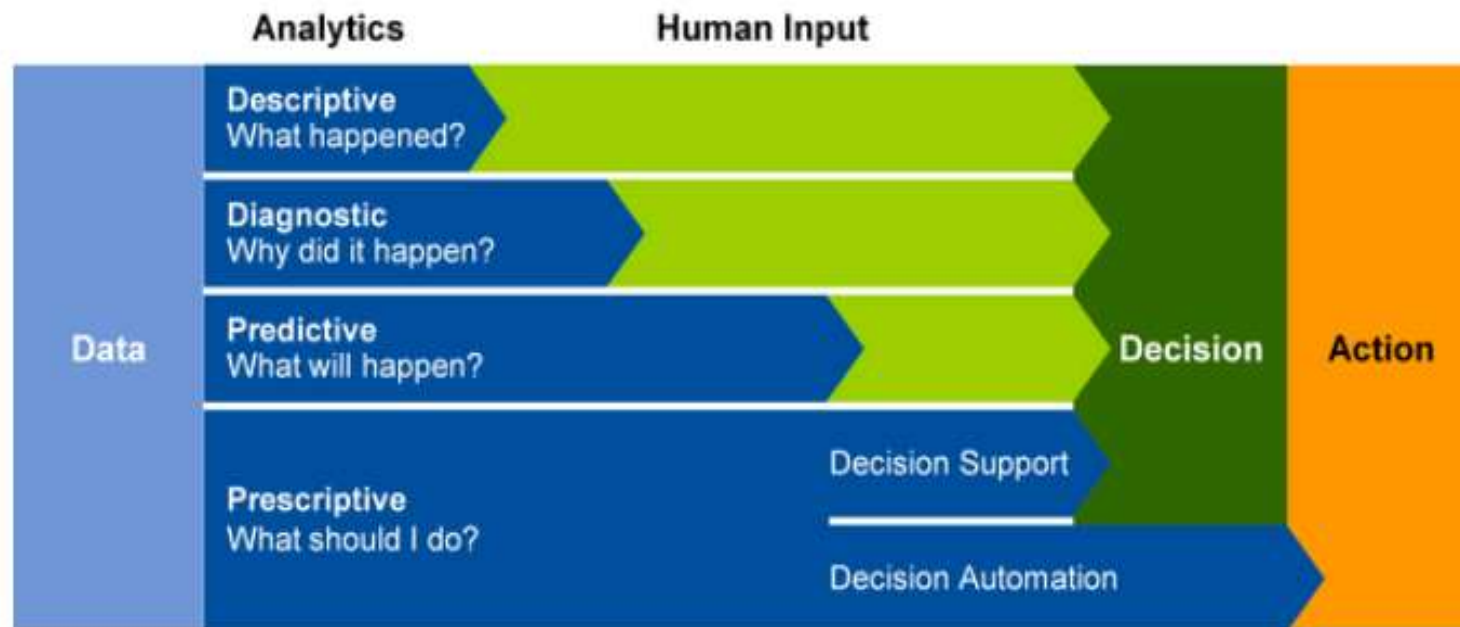
1. Quality of data
2. Use of data

# Quality of data

- Timeliness - is it up to date?
- Consistency - is the data consistent across the database?
- Integrity - is the data correct?

# Two facets of HR Data Analytics: Use of Data

Figure 1: Four Types of Analytics Capability



Source: Gartner (October 2014)

# Two facets of HR Data Analytics: Use of Data

**Level 1:** Statistics and Reporting: “What happened”

- How many employees left?
- What was the attrition level?
- What is the median salary?
- How many employees have achieved the targets?

Reactive: provide data when asked

Proactive: build dashboards, analyze trends, conduct benchmarking

# Two facets of HR Data Analytics: Use of Data

**Level 2:** Advanced/Diagnostic Analytics: “Why did it happen”

- Why is my attrition so high?
- Why are some of my employees more productive?
- Why did some of my employee’s performance decrease after we started subsidizing lunches?

Both internal and external data are actively used

# Two facets of HR Data Analytics: Use of Data

**Level 3:** Predictive Analytics: “What will happen”

- What will happen if I implement a new compensation model?
- How many employees will I need at our new location next year?

Business performance data is heavily used  
Scenario planning

# Two facets of HR Data Analytics: Use of Data

## Level 4: Prescriptive Analytics: “What should I do”

- What are the most effective ways for my organization to reduce attrition at location A
- Which tools should I use to recruit 5000 people next year?
- Ways to improve the employees performance.
- Automation of decision making on recruiting channel spend allocation

# HR metrics vs HR analytics

- Lawler, Levenson and Boudreau (2004) distinguish 'HR Analytics' as separate from 'HR metrics'.
- HR metrics are measures of key HRM outcomes, classified as efficiency, effectiveness or impact.
- In contrast, Lawler et al. (2004) state HR Analytics are not measures but rather represent statistical techniques and experimental approaches that can be used to show the impact of HR activities.



# Definition based on (Marler, J. H., & Boudreau, J. W. 2017).

Bringing all these various definitions together, we define HR Analytics as:

*A HR practice enabled by information technology that uses descriptive, visual, and statistical analyses of data related to HR processes, human capital, organizational performance, and external economic benchmarks to establish business impact and enable data-driven decision-making.*

# TOOLS USED BY ORGANIZATIONS TO SUPPORT HUMAN CAPITAL ANALYTICS

Lunsford, D. L., & Phillips, P. P. (2018)

- Descriptive Analytics - charts and reports
- Predictive Analytics - data mining, modeling, statistics, and artificial intelligence techniques
- Prescriptive Analytics - optimization, simulation, decision support systems, and expert systems

# Data storage and management

- There are various technologies for storing data, including relational databases, NoSQL (Not Only SQL) databases, text documents, spreadsheets, videos, and journals (Balina, Žuka, & Krasts, 2016).
- Predictive analytics utilizes mining, including data mining, text mining, web mining, and media mining, as well as forecasting tools (Delen & Demirkan, 2013).
- Prescriptive analytics uses a decision model and historical data to make actionable recommendations (Vahn, 2014).

# Reporting and visualization tools

- Analytics supports a variety of ways of accessing information, including scorecards, dashboards, reporting systems, ad hoc query tools, tools for providing alerts, and collaboration tools (Martin, 2011).
- Rudimentary business analytics tools can vary from reports and ad hoc queries to dashboards (Wixom, Yen, & Relich, 2013).
- Data visualization presents data in a graphical format and enables the user to explore the data graphically (Holder, 2016).
- Descriptive analytics uses traditional reporting capabilities—queries, charts, dashboards, and data visualizations (Delen & Demirkan, 2013; Musumano, 2016; Narula, 2015).
- Predictive analytics uses historical data to make predictions of future outcomes (Fitz-enz, Phillips, & Ray, 2012).

**Predicting employee performance?**

# Factors affecting employee performance

- Rewards
- Autonomy
- Task complexity
- Interesting jobs
- Compensation benefits
- Leader member exchange relationship
- Leadership styles
- Personality traits
- Academic background
- Interview test scores
- Organisational factors
- Team level factors and etc...

# Different techniques applied in performance analytics

1. Dashboard
2. Correlational analysis
3. Predicting employee performance
4. Segmentation of the employees
5. On time appraisal (day to day basis)
6. Running annual surveys to understand the behavioural patterns

# Creating performance metrics



## Eg., Performance metrics

<b>Performance Review Completion Rate</b> Percentage of completed reviews	<b>Formula</b> $\left( \frac{\text{Number of completed performance reviews}}{\text{Number of completed performance reviews due}} \right) \times 100$
<b>Average Performance Rating</b> The mean performance rating across a selected group of employees receiving performance assessments.	<b>Formula</b> $\left( \frac{\text{Total of all Performance Ratings}}{\text{Number of employees who received a Performance Rating}} \right) \times 100$
<b>Performance Rating Distribution</b> The employee representation across each of the available Performance Ratings.  This distribution can provide insight into the degree of use of the full scale, suggest possible rating inflation, illustrate where there are issues with under performance, and reveal any variance with organization distribution targets.	<b>Formula</b> $\left( \frac{\text{Number of employees who received each rating}}{\text{Number of employees who received a Performance Rating}} \right) \times 100$

Predicting employees performance using regression analysis

Thank you