

SIGRH

Sistemas de Informação para a Gestão de Recursos Humanos

Mestrado em Gestão de Recursos Humanos

Aula 08

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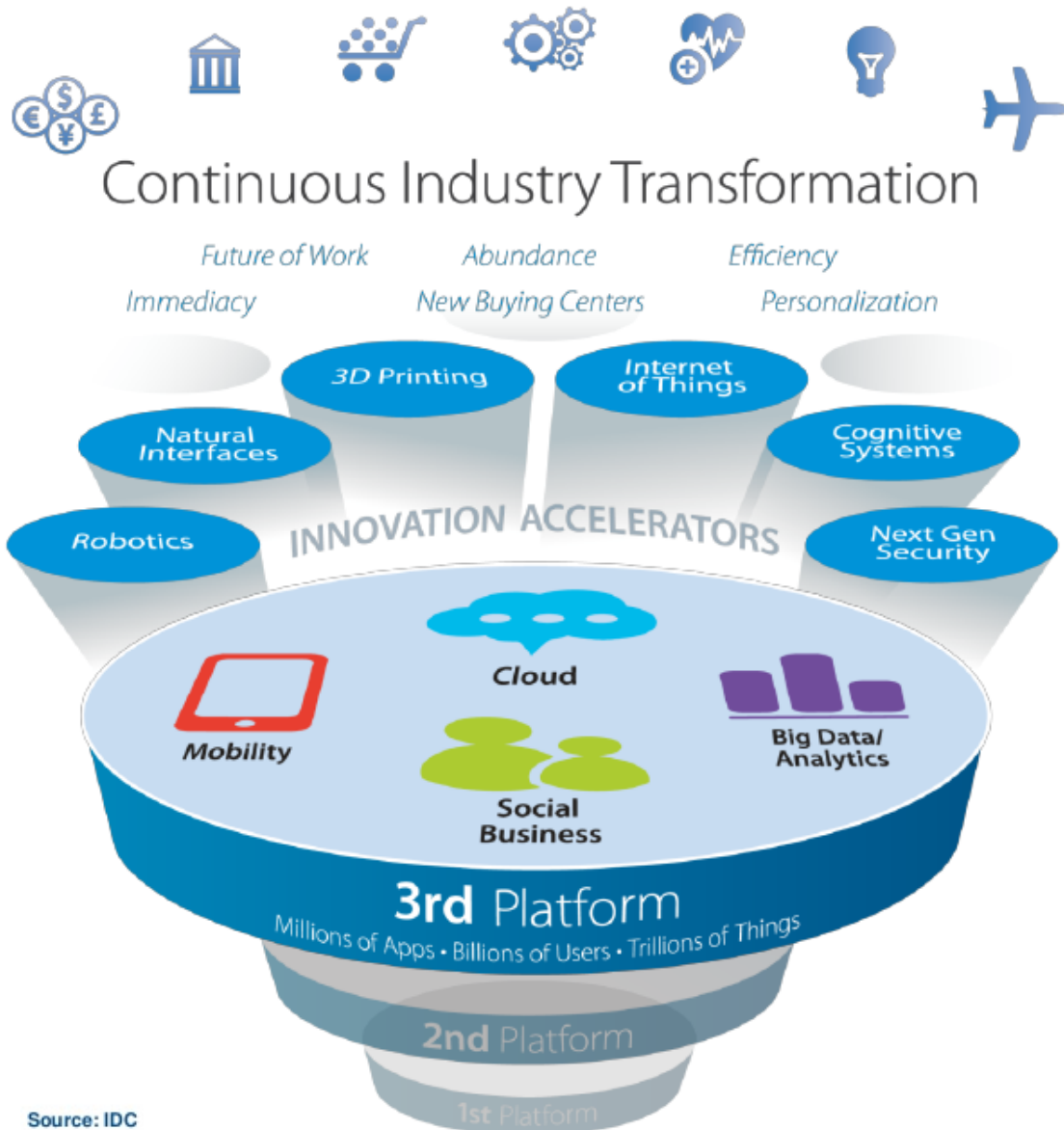
LISBON
SCHOOL OF
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UNIVERSIDADE DE LISBOA



Cronograma

Aula	Dia	Agenda	Docente
1	19 Fev	Apresentação da UC; Os SI/TI e a GRH: suporte aos processos de RH e as redes sociais ao serviço das organizações	Mário Romão
2	26 Fev	Sistemas de Informação de Gestão, tipologia de Laudon&Laudon; Bases de dados; Apresentação aplicação SaaS Tap My Back - motivação e reconhecimento	Mário Romão
3	5 Mar	Novos desafios da GRH e dos SIGRH, o caso do recrutamento, selecção e retenção do top-talent na área de TI; Apresentação Landing.Jobs - José Paiva (co-founder); Características dos vários tipos de SI segundo Laudon&Laudon	Mário Romão
4	12 Mar	Módulo aplicativos típicos de GRH: recrutamento e seleção, formação e desenvolvimento de RH, gestão de competências, avaliação de desempenho, controlo de assiduidade e processamento salarial	Paulo Almeida Gonçalves
5	19 Mar	Processos de GRH: do desenho/ conceção à implementação e integração ROI da formação (Apresentação por especialista – Winning)	Mário Romão
6	9 Abr	Apresentação das soluções de HCM da SAP	Paulo Almeida Gonçalves
7	16 Abr	Sistemas de suporte à comunicação intra-organizacional e ao ambiente colaborativo, comunidades de prática (ERM - Employee Relationship Management)	Paulo Almeida Gonçalves
8	23 Abr	A 3ª Plataforma e os novos desafios dos SIGRH	Paulo Almeida Gonçalves
9	30 Abr	Apresentação das soluções de HCM da Primavera Planeamento, aquisição, projecto e implementação de SIGRH	Paulo Almeida Gonçalves
10	7 Mai	Apresentação das soluções de HCM da Oracle	Paulo Almeida Gonçalves
11	14 Mai	Apresentação de trabalhos	Paulo Almeida Gonçalves
12	21 Mai	Apresentação de trabalhos	Mário Romão

3ª Plataforma





Digital HR

- Today there are more than **7 billion** mobile devices in the world, and more than **40 percent** of all Internet traffic is driven by these devices. Yet HR teams remain far behind in deploying mobile solutions. Fewer than **20 percent** of companies deploy their HR and employee productivity solutions on mobile apps today.
- Designing **mobile apps** and considering the **end-to-end user experience** are new disciplines for HR, combining design thinking with apps, video, social, and mobile technologies.
- Digital HR, which brings together **social, mobile, analytics, and cloud (SMAC)** technologies, represents a new platform for improving the employee and candidate experience. While vendors are now delivering solutions, companies should build their own integrated digital HR strategies and programs.

O que define a *Cloud*

- Disponibilização de recursos de computação – desde aplicações a *data centers*, numa base de *pay-per-use*
 - On-demand self-service
 - Broad network access
 - Resource pooling
 - Rapid elasticity
 - Measured service
- Sem necessidade de investimentos iniciais, implementação, nem provisionamento de capacidades

Cloud Computing Deployment Models



Operated solely
for a single
organization

Maybe on
premise or off
premise

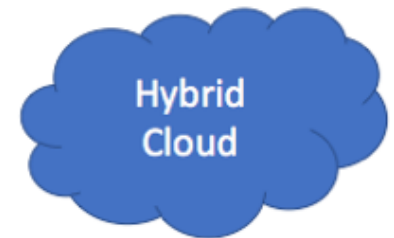


Shared by several
entities that have
a common
purpose.

Maybe on
premise or off
premise

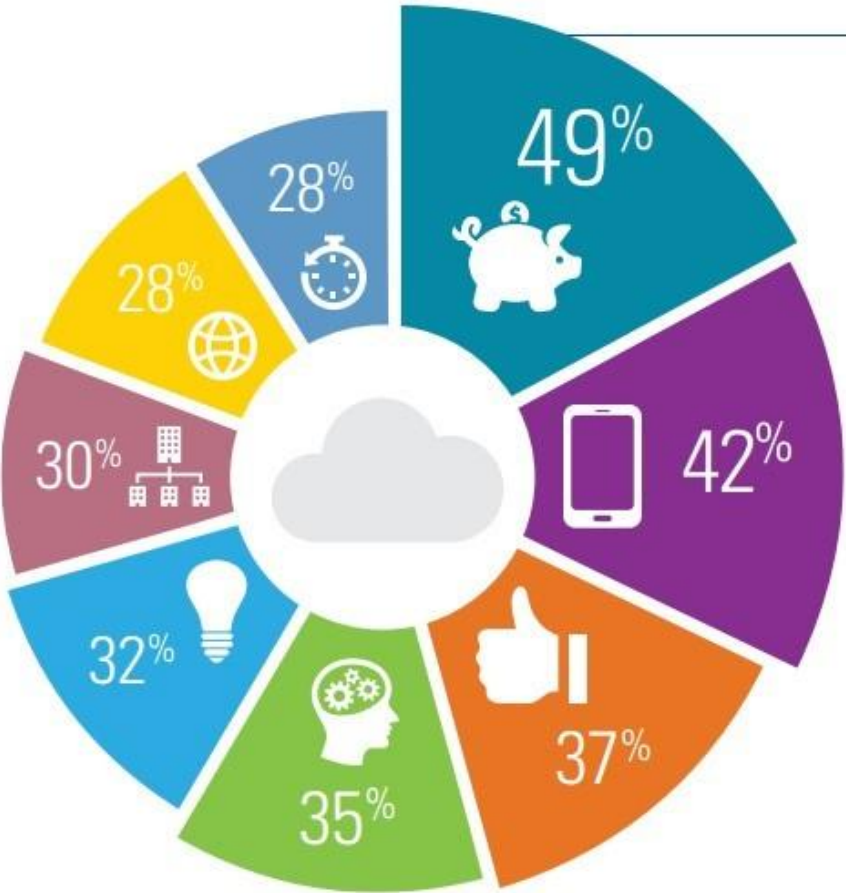


Available to the
general public
and owned by a
single
organization
selling cloud
services.



Any combination
of two or more
private /
community or
public clouds.

Drivers de Adoção da *Cloud*



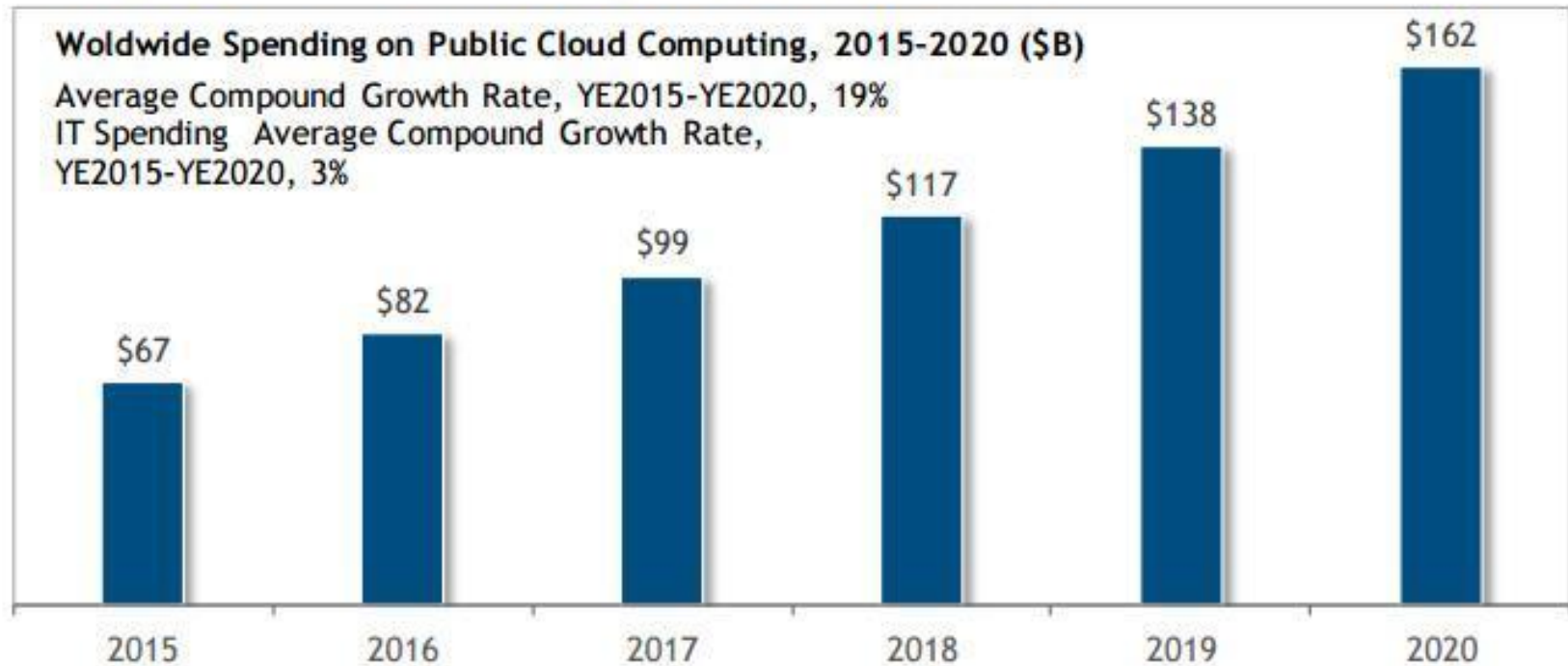
The top ways businesses are using cloud to drive business transformation in 2014

- Drive cost efficiencies
- Better enable mobile workforce
- Improve alignment with customers/partners
- Better leverage data to provide insight
- New product development/innovation
- Develop new business models
- Shift to a global shared services model
- Faster time to market

Source: 2014 KPMG Cloud Survey Report

Indicadores de Adoção da *Cloud*

The Rapid Growth of Cloud Computing, 2015-2020

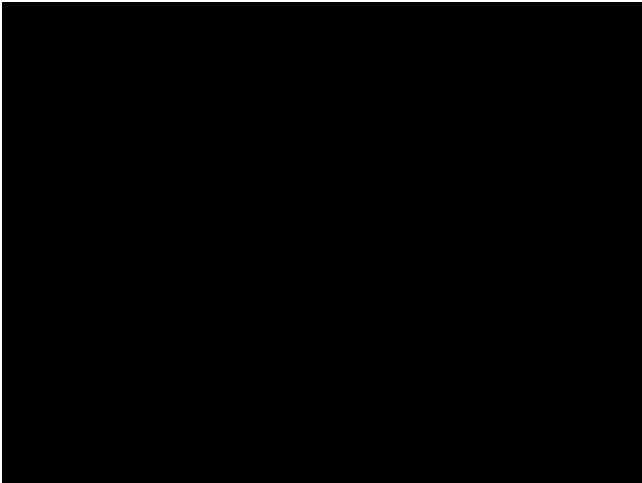


Source: IDC, 2016

- Legislação
 - Localização geográfica dos dados
- Dependência do fornecedor
 - SLA, backup/ recovery
- Fornecedor lock in
 - Como mudar de fornecedor
 - Capacidade de importar/ exportar dados
- Gestão
 - Shadow IT: Compra de serviços cloud pelo negócio sem o conhecimento do IT
- GDPR (25 Maio 2018)

- Diminui as barreiras para a rápida utilização de software
- Foco essencial nas necessidades do negócio e não no IT
- Redução de custo de infraestruturas
- Recursos escaláveis em função das necessidades
- Driver de negócio

Social Media Revolution



<https://www.youtube.com/watch?v=2lcpwISzbQ>



David Parkins

Data is the new oil.
It's only useful when
it's refined!

Jess Greenwood, Contagious

“If you can’t measure it, you can’t manage it”

Peter Drucker



“The development of **deeper levels of analysis** to monitor **metric outcomes**, **identify trends**, **leverage positive outcomes** and intervene or **mitigate negative outcomes** will lead to **better overall human capital management**”.

Society for Human Resource Management, 2012, p.6

One of the critical characteristic of **Strategic HRM** is the **adoption and use of HR metrics** (Lawler III, Levenson, & Boudreau, 2004).



- Initially HR metrics were primarily used to measure or audit **aspects of HR programs and activities**;
- Metrics began to be used to **measure HR effectiveness**;
- **Limitations** of early metrics:
 - The focus on **cost effectiveness** as most of the data used came from accounting systems, consequently those metrics **emphasize costs** with little or no information about benefits – this perpetuates the common perception of **HR as a “cost center”** with **limited value to strategy**;
 - Metrics tend to aggregate **data at the level of the organization**, thus they offer limited information to diagnose situations within the organization;
 - Data was available only after the events had occurred – ***data after the fact***.



Lawler III, Levenson, & Boudreau (2004) emphasize that three types of metrics are important to evaluate the HR function:

- **Efficiency of administrative tasks** (how well the HR function does its basic administrative tasks);
- **Effectiveness of HR practices** (HR programs and practices have the intended effect on the people or talent pools toward which they are directed, eg. Talent and talent management);
- **Impact in terms of the overall objective of developing and optimizing workforce capabilities and competencies** (means demonstrating a link between what HR does and tangible effects on the organization's ability to gain and sustain competitive advantage).

Contemporary HR Metrics and Workforce Analytics



- The field of HR Metrics and Workforce Analytics is expanding and evolving:
- Workforce Analytics has become an umbrella term;
- HR Metrics
 - Are **data (numbers)** that reflect **descriptive detail about processes or outcomes** reflecting some of the organization's activities – eg. success in recruiting new employees.
- Workforce Analytics
 - **Strategies** for combining **data elements into metrics** and for **examining relationships or changes into metrics**.
- HR Analytics
 - The application of a **methodology and integrated process** for improving the quality of people-related decisions for the purpose of improving individual and/or organizational performance (Bassi, Carpenter, & McMurrer, 2010).
- In sum, HR analytics consists of an **array of tools and technologies**, ranging from **simple reporting of HR metrics all the way up to predictive modeling** (Bassi, 2011).



- Conjunto de ferramentas para consolidar, analisar e fornecer acesso a grande volumes de dados para ajudar os utilizadores a tomarem melhores decisões;
- Principais funcionalidades dos sistemas de BI:
 - Produção e parametrização de relatórios;
 - Dashboards/scorecards;
 - Consultas e pesquisa ad hoc;
 - Drill down;
 - Previsões, cenários e modelos.
- As principais ferramentas incluem:
 - Software para consulta e reporting;
 - Data Mining;
 - Online Analytical Processing (OLAP).

Data mining

- **Data mining** é um método de descoberta aplicado a **grandes volumes de dados**, nomeadamente aos **data warehouses**
- As técnicas de data mining são usadas com um cariz mais predictivo, para **revelar padrões ou tendências**, essenciais no apoio à tomada de decisão
- Permite identificar **relações espúrias e sem sentido** – *colaboradores mais altos dão melhores líderes*
- É essencialmente uma **forma de análise estatística**, que funciona por meio de **clusterização** (classificação e agrupamento de dados), **correlação** e **regressão múltipla**, muitas vezes a partir de uma variedade de bases de dados (por vezes incompatíveis entre si) e em seguida, procura associações entre os dados
- Pode incluir **inteligência artificial**

Big Data: 3 Vs

World Economic Forum (2012) opined that **big data represents a new form of economic asset.**

- **Volume**

- Todos os dados que são recolhidos

- **Velocidade**

- Criação, transmissão e recepção de dados em tempo real

- **Variedade**

- Multi-estruturados
- Com origem em múltiplas interacções de clientes
 - clickstream (website visits)
 - comentários
 - Email
 - SMS
 - pesquisas
 - sensor data
 - georeferenciação
 - social posts
 - Tweets

Social media analytics

- Social media analytics refere-se ao **desenvolvimento e avaliação de ferramentas e estruturas** para **colectar, monitorizar, analisar, resumir e visualizar dados de social media**
- A investigação em social media analytics serve diferentes objectivos:
 - Facilitar conversas e interacção entre comunidades online
 - Extrair padrões significativos e a inteligência associada
- Análise de um conjunto enriquecido de dados ou metadados:
 - Tags (anotações ou labels com texto livre) /opiniões subjectivas, avaliações e comentários / classificações /perfis de utilizador
- Os dados de social media são fluxos **dinâmicos**, com o seu volume a aumentar rapidamente e o seu tratamento coloca desafios significativos

Reports

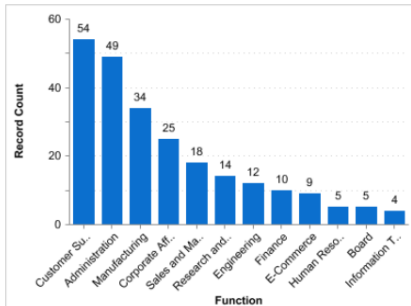
- What metrics will be reported?
- How will the metrics be presented?
- How should be reported?
 - Push communication (can contribute to information overload)
 - By e-mail?
 - Pull communication (at any time when they want it)
 - Posting on internal websites
 - Offering access to searchable information repositories
 - Providing access to analytical tools
- When should be reported?
 - Annually? Quarterly? Monthly? Realtime?
- To whom should be reported?
 - Senior executives?
 - Mid-level executives?

HR Dashboards

HR Metrics

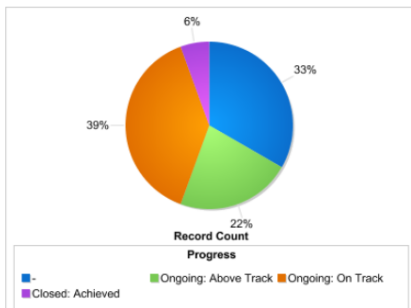
Find a dashboard... Edit Clone Refresh As of Today at 16:47

Headcount by Function (Current)



Displays the number of employees by Team

Progress of Objectives

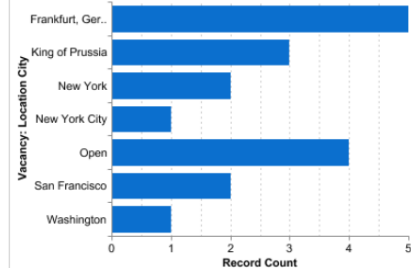


Shows the progress of all objectives, for all Team Members

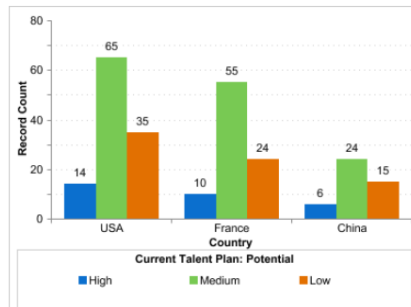
Loss Risk for Talent Pool



Vacancy's by Location

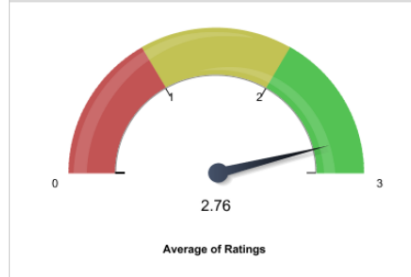


Summary of Organizational Potential



Displays a summary of organisational potential by Country

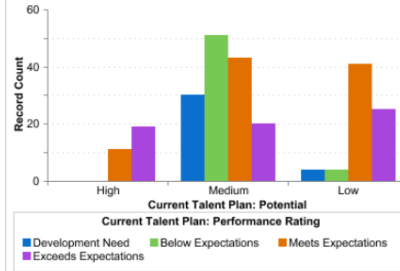
Overall Performance Rating



Applicant Status



Talent vs. Potential



- A current realtime snapshot of key HR metrics;
- Enriched component of reporting;
- Summarized, graphical and tabular data;
- Increased capacity to aggregate data.

HR Dashboards

- Sales
- Workforce Profile
- Workforce Productivity
 - Organization Effectiveness
 - Workforce Costs
 - Termination Value per Termination
 - Termination Value per FTE
 - Direct Cost of Voluntary Termination
 - Direct Cost of Voluntary Termination per FTE
 - Total Cost of Unscheduled Absence

- Time
 - All Time Periods
- Report By
 - All Organizational Units
- Limit By
- Filter By

- Report Designer
- Query Workspace

Executives

DASHBOARD TARGETS KPI's WORKFORCE PLAN ON A PAGE LEARNING ANALYTICS

Executive Dashboard

Key Metrics

	2011	2012	Change
Workforce Costs			—
Average Annual Salary per EOP Headcount	\$79,104	\$80,506	▲
Attrition			
Termination Rate - Voluntary	13.8%	13.2%	▼
Termination Value per Termination	\$73,866	\$72,520	▼
Recruitment			
New Hire Failure Factor - <6/12 months	1.5%	2.1%	▲
Time to Start (Elapsed) per Hire	820.67	35.65	▼
Business Execution			
Customer Satisfaction Index	3.85	3.72	▼
Operating Profit per FTE	\$128,400	\$141,096	▲
Learning and Development			
Training Hours per Employee	16.54	23.48	▲
Course Participation Rate	0.7%	0.9%	▲

Quick Links

- Talent insights
 - talent insight reports
 - standard online reports
- Reporting central
- Workforce planning
- Headlines

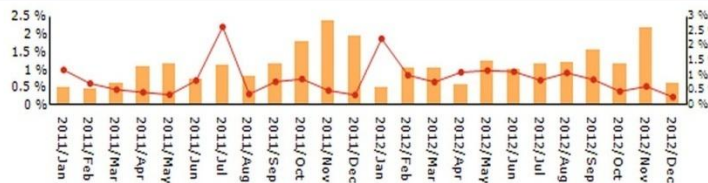
Issue Focused Series

- Aging Workforce
- Workforce Diversity
- Low Tenure Termination
- Workforce Generation
- Internal Mobility

Spotlight

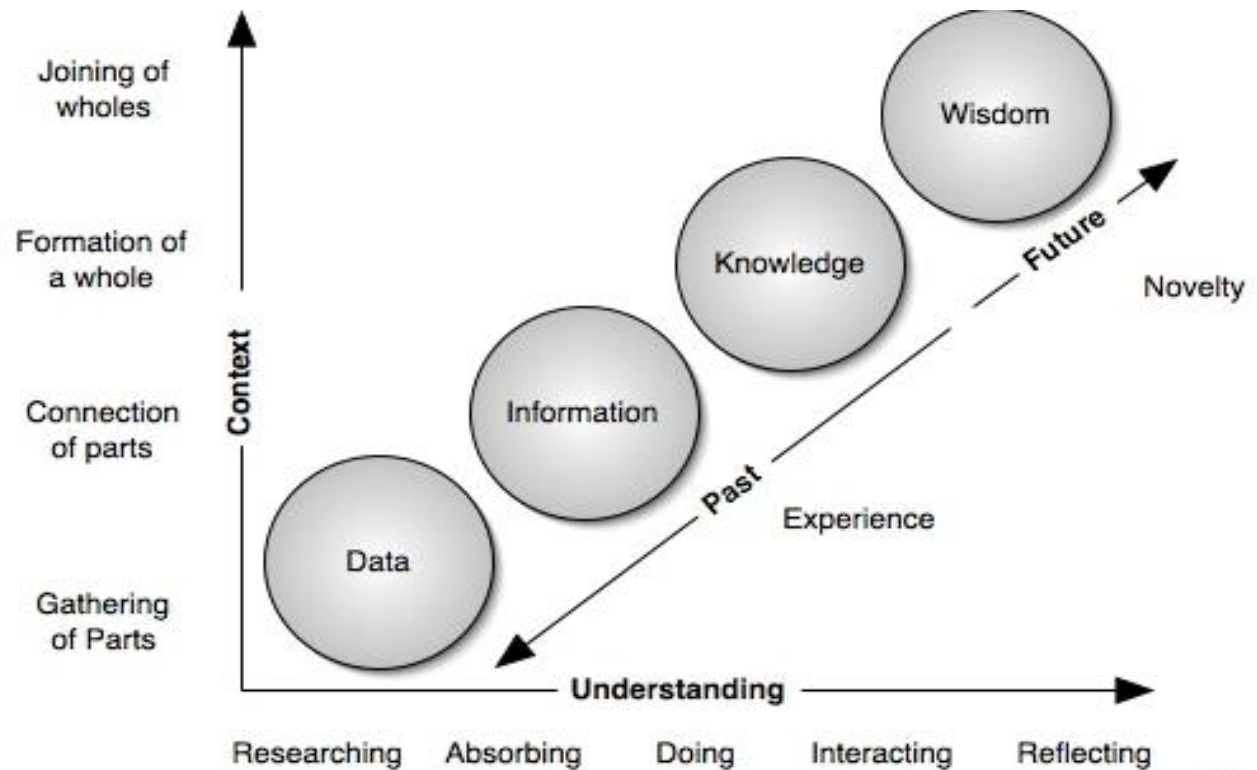
- In what areas do we need to proactively train and groom employees for positions?
- Do we have a pay for performance culture?

Hiring and Terminations Trend



Predictive Analyses

Attempts to develop models of organizational systems that can be used to predict future outcomes and understand the consequences of hypothetical changes in organizations.





- This year, the percentage of companies that believe they are fully capable of developing predictive models doubled, from 4 percent in 2015 to 8 percent in 2016. In 2015, only 24 percent of companies felt ready or somewhat ready for analytics; this year, that number jumped by one-third, to 32 percent.
- People analytics today brings together HR and business data from different parts of the business and is now addressing a wide range of challenges: analyzing flight risk, selecting high-performing job applicants, identifying characteristics of high-performing sales and service teams, predicting compliance risks, analyzing engagement and culture, and identifying high-value career paths and leadership candidates.
- Analytics technology is now available off the shelf, embedded in most ERP and talent management systems, engagement tools, text and semantic analysis tools, and recruitment and learning platforms.



Capabilities

- Buying the software is just the first step—**it will take several years for businesses to fully absorb this technology;**
- Companies with leading capabilities in HR and people analytics **have been building these capabilities for three years or more.**

Data

- Organizations are still new to this discipline, and many suffer from **poor data quality, lack of skills, and a weak business case** for change;
- **Data can originate from a range of sources**, including core HR systems, employee engagement data, survey data, external data (from LinkedIn, Glassdoor, and other systems), and text data from employee comments;
- **Data is then analyzed** to understand company culture, find opportunities to improve retention or performance, or diagnose management weaknesses or other operational problems.

Use of Analytics

Understanding and predicting retention

- Understanding why people leave a company has become a top priority. One vendor can predict retention within weeks, simply based on data available from an **individual's behavior on social media**;
- A pharmaceutical company and a software company are now collecting **data from LinkedIn and other social networks** to predict the “high-flight-risk” candidates among their high-potential employees;
- Pfizer, AOL, and Facebook, now analyze the **factors that correlate with high-performer retention**.

Sales performance and recruiting

- Insurance companies have analyzed the **profiles of top salespeople** and now know that screening candidates for grade point average or academic pedigree is no longer considered a strong indicator of future sales performance.

Use of Analytics

Productivity

- Software companies, retail banks, and manufacturers are looking at the **characteristics of top salespeople**, realizing that their personal networks, how they work internally, and the time they spend with customers predict results much more accurately than the amount of sales training or experience;
- IT and HR departments are now looking at **email metadata** to understand why some people are more productive than others, then reducing the number of internal meetings to improve output;
- Automobile companies are studying the **patterns of unplanned absences** to predict when people are likely to take a day off, prescheduling extra staff to make up for known periods of absence;
- The Ministry of Energy of the Government of Mexico is using a **predictive workforce planning and analytics model** to identify current and future talent and skills gaps in critical oil and gas occupations over a 10-year horizon. The model leverages a number of adjustable macroeconomic variables such as oil price and exchange rates that correlate strongly to the demand and supply of skilled labor. Based on an understanding of these gaps in critical skills, the ministry is able to work proactively with multiple stakeholders to address them.

Use of Analytics

Expanding the sources of talent and improving the quality of hires

- After years of forcing job candidates to endure endless **rounds of interviews** and tests, Google used data to discover that, after the fourth interview, every following interview is largely a waste of time.

Profiling high performers in sales and customer service

- Oracle and ADP analyze sales performance based on **talent characteristics**. They can now better decide who to hire, how to set quotas, and who should become a sales leader.

Compliance and risk

- A UK financial services company uses analytics to **evaluate individual employees**, spotting potential “rogue traders” and other compliance breaches as a part of proactive risk management.

Training

- Learning management systems vendors now offer new tools that use data to “**recommend learning**” in the same way as Amazon and Netflix recommend books and movies;
- BP uses analytics to evaluate its **training**.

People analytics: Percentage of respondents rating this trend "important" or "very important"



Percentages by region:



The future is NOW

- A definite **Competitive Advantage**;
- Tools exists **TODAY**;
- Computing Infrastructure is **in place**;
- **Cloud makes it accessible all the time**;
- Vendors are building **better templates of Dashboards**;
- Vendors **integrating metrics in standard product deliverables**;
- By using HR Metrics and Workforce Analytics, decision makers will:
 - Acquire the **ability to more effectively manage and improve HR programs and processes**;
 - **Improve the effectiveness of HRIS use**;
 - Be able to **modify entire employment systems to manage the company's human capital more effectively**.

Intelligent personal assistants and robot advisers

- Amazon's Alexa
- Apple's Siri
- Microsoft Cortana
- *IBM Watson*
- Personal Robots
- *Robo Advisers*

AI use in HR

Talent Acquisition

Remove a lot of monotonous work from the HR managers. Talent acquisition software can scan, read, and evaluate applicants and **quickly eliminate 75% of them from the recruiting process.**

Onboarding

AI can customized onboarding procedures for every single position. This proved to be extremely productive in practice since new workers who went through well-planned onboarding programs had much higher retention rates than their peers who didn't have the same opportunity.

Training

AI can successfully plan, organize, and coordinate training programs for all staff members. It also can determine the best timeframe for new courses and schedules lessons so as to fit the preferences of all employees individually.

AI use in HR

AI for recruiting

<https://www.youtube.com/watch?v=QfuGRCmXmCs>

https://www.youtube.com/watch?v=7vnsRAp0_M

Employee Experience

In a world being transformed by digital technologies (“There’s an app for that”), increasing transparency (“What does Glassdoor say about us?”), and the rising demand for talented professionals and workers with fast-changing skills, employee experience will become an increasingly important dimension of competing for and engaging your workforce. Employee brand and reputation—the story that employees in the external world tell about your company’s employee experience—will be a critical competitive differentiator. Just as companies now measure customer experience through net promoter tools, social media monitoring, and customer segmentation, so will HR rigorously monitor the health and productivity of its employees. Real-time feedback tools will explode as pulse surveys and always-on feedback systems become commonplace and the definition of employee expands. We will design and monitor the experience of contractors, contingent, and gig workers too.

Mobile is changing our lives



Mobile phone lane for pedestrians in Chongqing, China





FUTURE

NEXT EXIT ↗



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