SIGRH
Sistemas de Informação para a Gestão de Recursos Humanos

Mestrado em Gestão de Recursos Humanos

Aula 04

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LISBON
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Cronograma

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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); Caracteristicas dos vários tipos de SI segundo Laudon&Laudon	Mário Romão
4	12 Mar	Módulo aplicacionais 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 de solução de software	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	Planeamento, aquisição, projecto e implementação de SIGRH	Paulo Almeida Gonçalves
10	7 Mai	Apresentação de solução de software	Paulo Almeida Gonçalves
11	14 Mai	Apresentação de trabalhos	Paulo Almeida Gonçalves
12	21 Mai	Apresentação de trabalhos	Mário Romão

Agenda

e-HRM

HRIS

- Objectives
- Factors influencing adoption
- Cornerstones
- Types
- Components
- Advantages

ERP

Market perspectives and trends

- The term **e-HRM** was coined in the 1990s and refers to **conducting HRM activities with the use of the Internet or the Intranet** (Lengnick-Hall & Moritz, 2003);

- **e-HRM** is the **application of information technology** for **networking and supporting** of at least two individual or collective actors in their **shared performing of HRM activities** (Strohmeier, 2007);

- Using e-HRM technology is a way of implementing HR strategies, policies, and practices, as **e-HRM technology supports the HR function** to abide by the HR needs of the organization based on the network (Ruel et al., 2004);

- The **e-HRM technology provides a portal** which enables managers, employees, and HR professionals to view, extract, or alter information which is necessary for **managing the HR of the organization** (Ma & Ye, 2015);

- Additionally, with the use of e-HRM, **fewer HR professionals** are needed since e-HRM eliminates the "HR middleman" (Ma & Ye, 2015).

- HRIS comprises the **technology** and **processes** underlying this new way of conducting human resource management;

- An HRIS can include **technologies** such as **databases**, **small functional systems** focused on a single HR application (e.g., performance management), or a **large-scale, integrated enterprise resource planning (ERP) architecture** and **Web-based applications** (Thite, Kavanagh & Johnson, 2012);

- In today's environment, it can even be devices such as **smartphones** and **social networking sites** that enable employees to **access HR data remotely** or to **connect with others** in the organization (Thite, Kavanagh & Johnson, 2012);

- Several authors agreed that a line cannot be drawn between IT-based information system for HR and Internet based HR applications as **these two are basically doing similar jobs** (Ruël, Magalhães & Chiemeke, 2011).

- A **system** used to **acquire, store, manipulate, analyze, retrieve, and distribute information** regarding an **organization's human resources** (Kavanagh et al., 1990);

- An HRIS is **not simply** computer **hardware** and associated HR-related **software**. It also includes **people**, **forms**, **policies** and **procedures**, and **data** (Kavanagh et al., 1990);

- An **integrated system** used to **gather**, **store** and **analyze information** regarding an **organization's human resources'** comprising of **databases**, computer **applications**, **hardware** and **software** necessary to **collect**, **record**, **store, manage, deliver, present** and **manipulate data** for **human resources function** (Hendrickson, 2003);

- Human Resource Information System (HRIS) is used to **gather** and **maintain** the **data** that **describe human resources**, **transforming data into information** and then **reporting the information** to users (Ngai et al, 2007).

- To become a **common point of source of information** related to human resource in an organization where everyone can collect, access, store and distribute data in paperless form;

- To **collect appropriate data** and **convert it into information** and **knowledge** through **faster processing of information** allowing **powerful decision making** with **optimum utilization of resources**;

- Guarantee **accuracy, reliability and validity of the data** coupled with **cost reduction** due to manual record keeping;

- Producing a **greater number and variety of accurate and real-time HR-related reports**;

- Provide a **comprehensive information picture** as a single, **integrated database**, which enables organizations to provide structural connectivity across units and activities and to **increase the speed of information transactions**.

Organizational Factors

- All HRIS types are not equal as **HRIS usage depends greatly on firm's size** (Hendrickson, 2003);

- Only **large companies have tried to implement HRIS of all three** types, naming operational HRIS, relational HRIS and transformational HRIS;

- **Smaller and mid-sized company only tried to implement operational and relational HRIS,** as these two HRISs do not perform HR activities with a strategic character thus are less costly (Ruël et al.,2011);

- **Top management support shows influencing action on adoption of HRIS**, namely attitude and interest towards information and communication technology (ICT), which are important to promote ICT adoption (Teo et al., 2007; Yang et al, 2007);

- **Employee engagement is also needed** and is also greatly influenced by the management commitment (Teo et al., 2007).

Factors influencing adoption of HRIS

Technological Factors

- **Technological readiness** is a significant factor that influences IT adoption (Kwon & Zmud, 1987; Oliveira & Martins, 2010);

- **Various numbers of technological factors** contribute in influencing HRIS adoption as it is a type of innovation adoption.

Environmental Factors

Includes industry characteristics, government regulation, and supporting infrastructure (Oliveira & Martins, 2010):

- **Competition** is an influencing environmental factor in adopting HRIS;

- **Technological development**;

- **HRM state of art**;

- **Labor market**;

- **Societal developments**;

- **Governmental regulation** (Ruël et al.,2004).

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Data Accuracy

Cost: Cost comes as the foremost priority of HR managers when it comes to implementing the software. The cost in this case would be the implementation costs associated with HRIS, transaction costs, the technical people involved with the software, upgrade of software, addition of features in the current software also increases the cost. So HR has to make sure the cost benefit ratio is maintained related to the software.

Compliance: HR managers would expect the HRIS to be compliant with the laws of the land. That is, the software should consider the laws applicable to the country and should have in-built features regarding the same like tax calculation, retirement, pension, etc.

Timeliness: Time is the essence of HR and hence HR managers expect the HRIS to be up-to-date with all the information which will help in salary calculation, promotions, deductions and increment calculations on exact dates.

Patel (2015)

Types of HRIS

- **Operational** (**Transactional**) *[65%-75% time spent (Wright et al., 1998)]*

  - Administrative functions – Transactional activities that involve day-to-day transactions that deal mostly with record keeping – payroll and employee personal data for instance.

    Employees update their own personal data through an HR website.

- **Relational** (**Traditional**) *[15% to 30% time spent (Wright et al., 1998)]*

  - Supporting business processes – Involve HR programs such as planning, recruiting, selection, training, compensation or performance management.

    Supporting recruitment and selection through a web-based application.

- **Transformational** *[5% to 15% time spent (Wright et al., 1998)]*

  - Strategic HR activities that add value to the organization known as knowledge management — cultural or organizational change, structural realignment, strategic redirection, and increasing innovation.

    Manage a workforce through an integrated set of web-based tools.

Organizational Level	Type of System	Major Goals and Focus	HRM Examples
Operational	Transaction Processing System	Improved transaction speed and accuracy Improved efficiency in the processing of daily business transactions Automation of routine transactions Reduced transaction costs	Payroll processing Time and attendance entry Online creation and dissemination of application forms
Managerial	Management Information System	Provides key data to managers Supports regular and ongoing decisions Provides defined and ad-hoc reporting	Producing EE03 reports Calculating yield ratios for recruiting Calculating per-capita merit increases
Executive	Executive Information System	Provides aggregate, high-level data Helps managers with long-range planning Supports strategic direction and decisions	Succession planning Aggregate data on balanced scorecard

(Thite, Kavanagh & Johnson, 2012)

HRIS components

- **Employee Administration**
  - Database of employees profiles, reporting, organizational structure, joining, transfer and promotion
- **Payroll**
- **Compensation and Benefits**
- **Expense reporting**
- **Time management**
  - Time sheets, leave policy, leave application, leave calendar and reports
- **Performance Evaluation**
  - Target setting, approval by line managers, performance management process and reporting
- **Recruitment**
  - CV bank, recruitment requisition, interview board, record of interview result
- **Personal Self Service**
- **Training & Development**
  - Training requisition, training calendar, training record and report

- **Position Control System**
  - Identification of each position in the organization, the classification of the job title within which position and the employee currently assigned to the position. Reference to the position control system allows the identification of the details about unfilled positions
- **Government Reporting and Compliance Information Systems**
  - Provide information needed to maintain compliance with government regulations
- **Workforce Planning**
  - Information about the quantity and quality of the available workforce to achieve the organization – expand into new market areas, relocate no new locations

Employee Journeys

A tool that aims to help guide workers throughout their employment, from onboarding to ongoing professional development.

Employee Communities

A tool that enables companies to create employee communities that connect colleagues and create a collaborative culture.

HR Help Desk

A tool that helps HR professionals deliver personalized service experiences to employees and also provides employee self-service capabilities powered by the Service Cloud.

Salesforce HR Analytics

Gives HR professionals and managers increased visibility into key employee performance and productivity metrics.

Engagement Apps

A development tool for building and deploy the mobile apps that tie into a company's business processes for areas such as recruiting, onboarding, interviewing and training.

- **One time update**
  - The most crucial benefit of HRIS is that **all the information has to be just filled in once** and the data is available for lifetime

- **Accurate Data**
  - Once the **data** is entered correctly, it can be assumed that it is **full-proof** and precise

- **Data integration**
  - There are different parts of systems in HRIS which may be updated by different departments and can be **integrated** together for decision making, internal evaluations and meaningful reporting

- **Access to any number of people**
  - Since this system can be customized, the **employees can be given access** to update their own data like address, contacts, etc. And managers can update their own set of data like targets, budgets, performance etc. without any interference
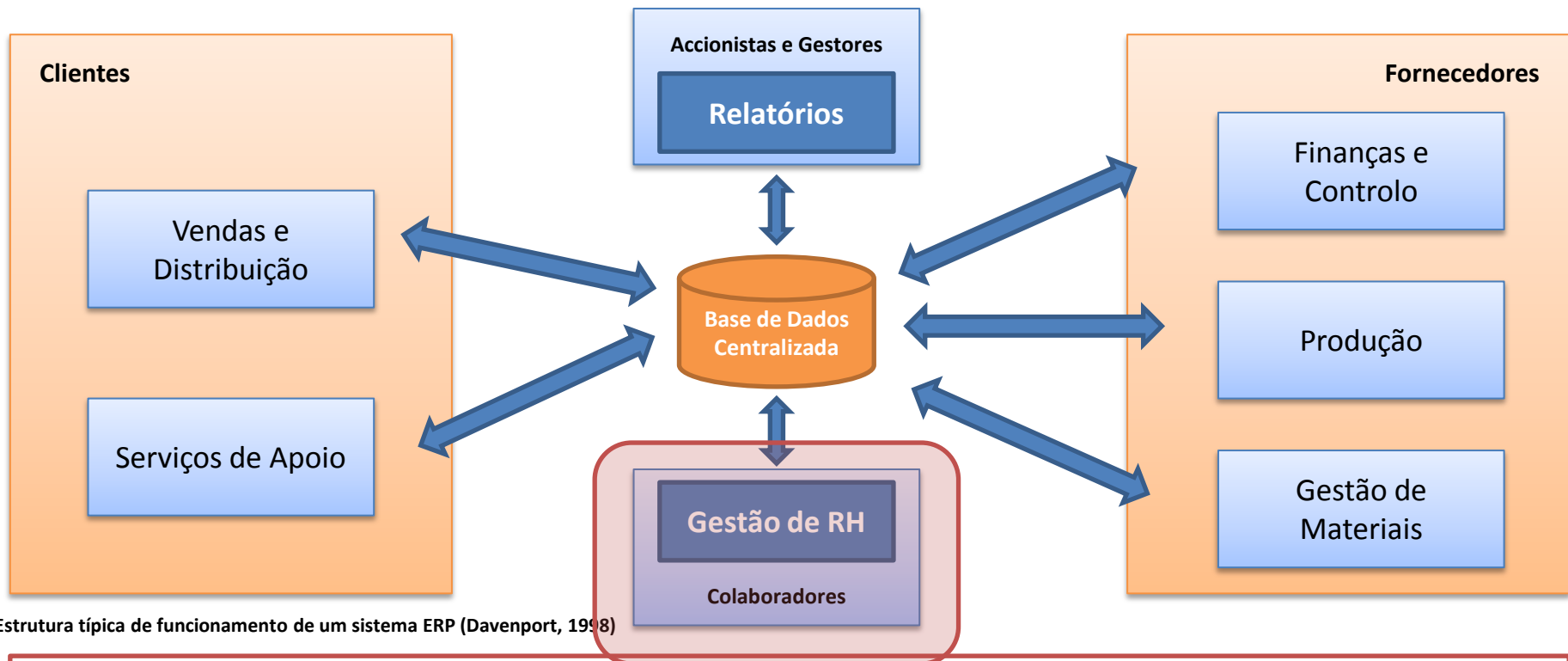
HRIS advantages

- To **streamline the HR administrative activities** so that **efficiency** and **effectiveness** of organization is enhanced;

- To improve **employee satisfaction** by delivering HR services more quickly and accurately;

- Increasing **competitiveness** by improving HR operations and management processes;

- **Reengineering** HR processes and functions;

- One of the **major purposes** of the **design, development, and implementation of an HRIS** is to **reduce the amount of time HR employees have to spend on transactional activities**, allowing the staff to **spend more time on traditional and transformational activities**, thus shifting the focus of HR from the processing of **transactions** to **strategic** HRM.

- The use of **Human Resource Information Systems (HRIS)** seems to play an **important role** in **Human Resource Management (HRM)**, because **HRIS functions improve HRM** in terms of **administrative purposes** and **analytical purposes** (Patel, 2015).

- The **impact of technology in HRM** falls into two main areas (Bhuiyan, Chowdhury & Ferdous, 2014):

  - Efficiency of **delivery of HR processes**/ Role of the **HR function** itself;

- The vast majority of organizations continue to use HRIS more for administration, to **replace manual processing** and to **reduce costs** (Brown, 2002), than for **analysis** or **decision support** (Haines & Lafleur, 2008; Ball, 2001), because (Thite, Kavanagh, & Johnson, 2012; Thite, 2004):

  - **Top management** is unable to place HR at the heart of business strategy and use it as a sustainable competitive advantage;

  - Excessive dependence on **technology**;

  - "**Over promising and under delivering**" by the vendors.

ERP Enterprise Resource Planning

Os ERP's são sistemas de informação cuja função é armazenar, processar e organizar a informação gerada pelos processos organizacionais, agregando e estabelecendo relações de informação entre as diversas áreas da empresa (*cross functional*).

Clientes

Vendas e Distribuição

Serviços de Apoio

Accionistas e Gestores

Relatórios

Base de Dados Centralizada

Gestão de RH

Colaboradores

Fornecedores

Finanças e Controlo

Produção

Gestão de Materiais

Estrutura típica de funcionamento de um sistema ERP (Davenport, 1998)

- Conjunto de módulos de software integrados e uma base de dados centralizada
- Colecta dados dos departamentos para utilização em quase todas as funções de negócio
- Os dados após introdução estão imediatamente disponíveis
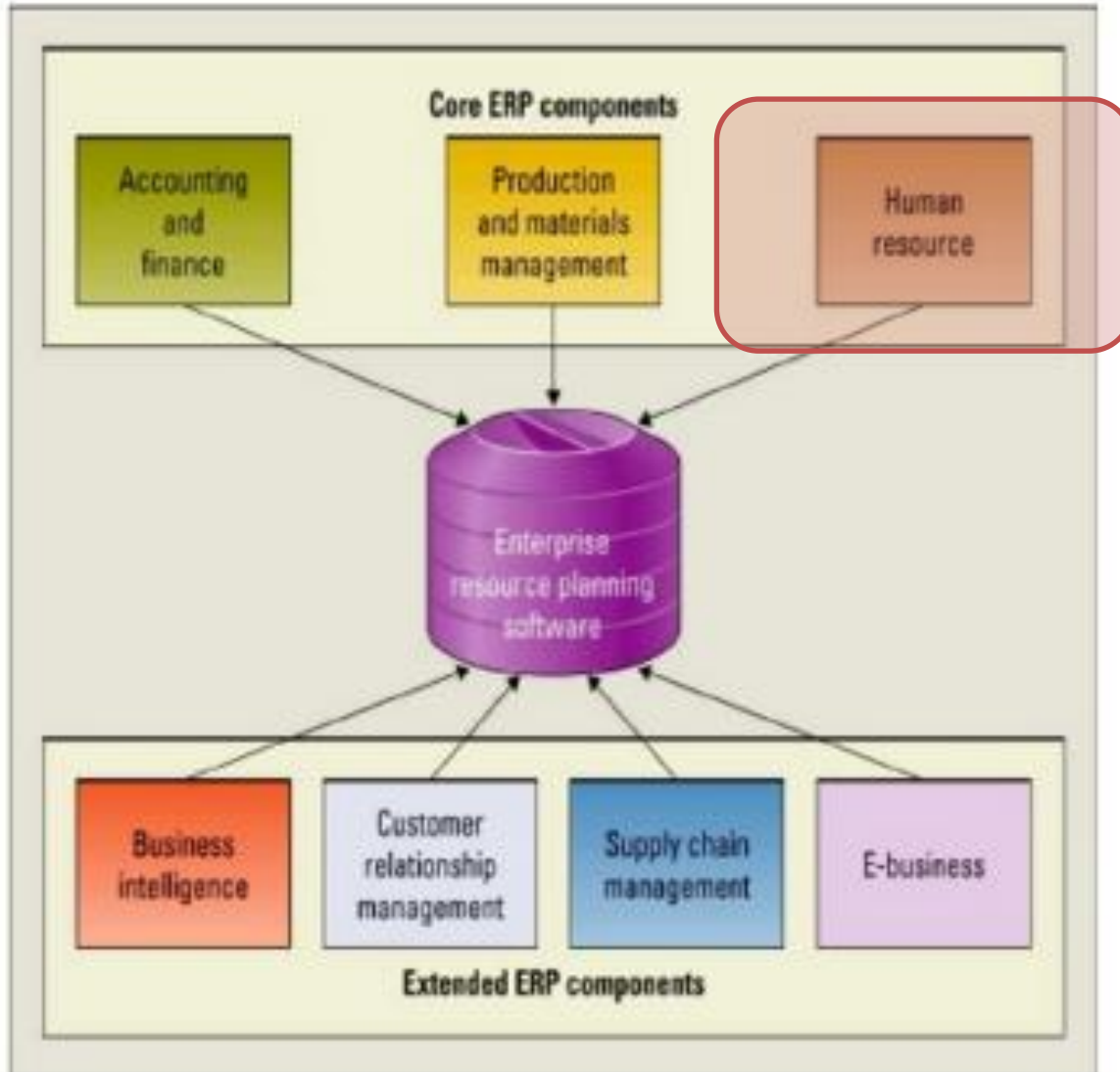
Importância dos ERP

- **Mudanças na cultura da organização** (comprometimento dos colaboradores e alteração dos processos para permitir a introdução imediata dos dados; maior visibilidade; descentralização das responsabilidades);

- **Dados fiáveis** eliminando duplicação e redundâncias;

- **Acelera os fluxos de dados** das organizações, **integrando informação** em **tempo real**;

- **Processos de tomada de decisão** mais dinâmicos e com base em dados fiáveis (potencia novas decisões e melhores decisões);

- Permite **delegar as decisões nos níveis apropriados**, mantendo o controlo de gestão adequado;

- **Consolida informação** de forma a facilitar o processo de planeamento empresarial;

- **Aumenta a eficiência operacional**;

- **Minimiza o tempo de resposta** a clientes e fornecedores.

HCM Market players

EXHIBIT 1: 2016 HCM APPLICATIONS MARKET SHARES SPLIT BY TOP 10 HCM VENDORS AND OTHERS, %
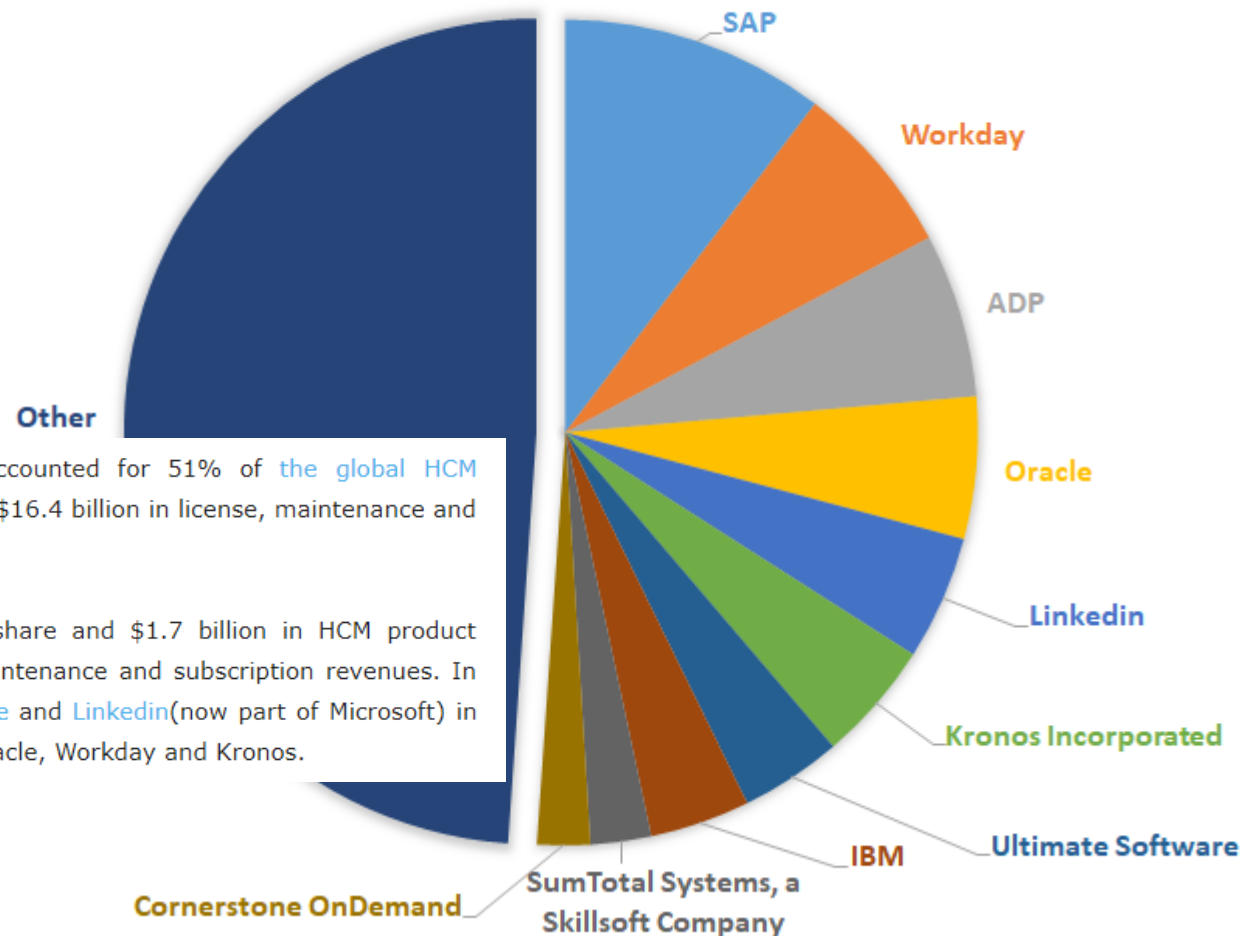
In 2016, the top 10 HCM software vendors accounted for 51% of the global HCM applications market which grew 4.9% to approach $16.4 billion in license, maintenance and subscription revenues.

Last year SAP was No. 1 with a 10% market share and $1.7 billion in HCM product revenues, riding on a 19.8% jump in license, maintenance and subscription revenues. In 2016, Workday was No. 2, followed by ADP, Oracle and Linkedin(now part of Microsoft) in that order. In 2015, the top five were SAP, ADP, Oracle, Workday and Kronos.

https://www.appsruntheworld.com/top-10-hcm-software-vendors-and-market-forecast/

HCM Market players

Vendors by HR function

Core Function	Solution	Leaders / Private Companies at Scale (Est.)*		New / Innovative Players		Pure-Play Public Companies
Talent Acquisition	**Sourcing**	RECRUIT Jobing.com	careerbuilder	snagajob	SimplyHired	monster
	Recruiting	Jobvite Hire Vue	findly Jibe	Hireology workable	SMASHFLY Namely	-
	Onboarding	TalentWise	icims	Onfido KIN	LawLogix	-
Talent Management	**Performance & Succession**	EPICOR	visier	logiserve ICONIXX	TalentGuard objectivelogistics	HALOGEN successfactors
	Training / Learning Management	skillsoft Lumesse	pluralsight guidespark	Axonify Grovo	INTELLUM TOPYX	Kenexa Taleo Cornerstone
HR Core Administration	**Time & Attendance**	KRONOS REPLICON	Ascentis	TSHEETS bambooHR	SwipeClock	workday sage
	Payroll / Benefits / Compliance	BENEFITS	zenpayroll	Sentric	bluemarble	ADP BenefitMall PAYCHEX CERIDIAN paycom
	Recognition / Rewards	globoforce	Achievers	kudos YouEarnedit	WooBoard Bonusly	-

*$50M in Venture Funding or estimated $30M+ revenue
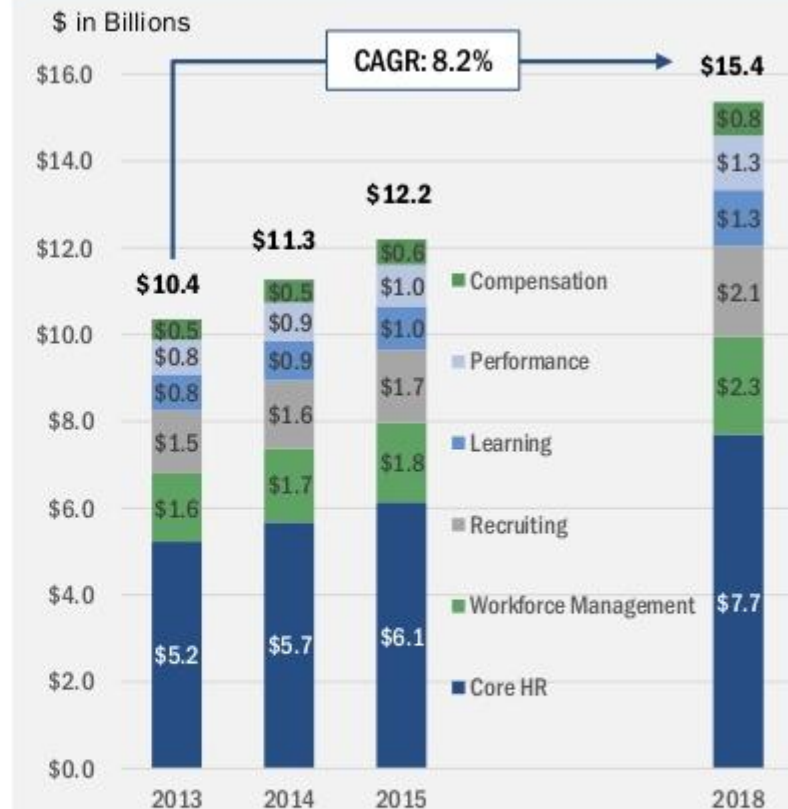
Market perspective

Key Drivers

- HCM Application market growth has continued at an impressive rate and continues to outpace other application markets

- Refresh cycle continues
  - Continued interest in first-time purchases of new solutions and replacements of aging core systems with SaaS-only deployments
  - 19% of enterprise companies are investing in upgrading and expanding existing HRM deployments

- Postmodern ERP has emerged
  - Buyers want more than just a simple HRM system with standard capabilities
  - 'Socialization' and 'datafication' of HRM functions emerging as innovative features used in buyers evaluation criteria

HCM Applications Market Size and Growth by Segment

$ in Billions

CAGR: 8.2%

Segment	2013	2014	2015	2018
Total	$10.4	$11.3	$12.2	$15.4
Compensation	$0.5	$0.5	$0.6	$0.8
Performance	$0.8	$0.9	$1.0	$1.3
Learning	$0.8	$0.9	$1.0	$1.3
Recruiting	$1.5	$1.6	$1.7	$2.1
Workforce Management	$1.6	$1.7	$1.8	$2.3
Core HR	$5.2	$5.7	$6.1	$7.7

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Trend – Core functions

Talent Acquisition

- Finding and retaining employees with the necessary skills, experience and cultural fit are key as companies continue to hire in earnest

- Emergence of more vertical focused solutions, especially on the sourcing side (e.g. internships, executive recruiting, sector specific jobs)

- Primary functions include:
    - Workforce planning
    - Sourcing & social recruiting
    - Candidate engagement
    - Applicant evaluation
    - Diversity & compliance
    - Onboarding

Talent Management

- Ensuring that individual performance and goals are clear

- Learning management systems in place to fill performance gaps

- Succession planning – ensuring employees know the future opportunities available to them

- Primary functions include:
    - Employee performance
    - Goal management
    - Career planning
    - Talent review
    - Retention management

HR Core Administration

- Automating the many disparate functions in the human resources department is key

- Area largely dominated by the $B+ ERP vendors

- Many providers now offer end-to-end capabilities for these functions

- Primary functions include:
    - HR Compliance
    - Compensation management
    - Payroll administration
    - Benefits administration
    - Time and attendance
    - Employee engagement

Human resource management master data, reporting and analytics

Social Tools Use and Plans

	Used strategically today	Will be used strategically in next 12 months	Allowed for individual use only	Evaluating use	Not allowed	Not aware/no plans
Collaboration tools/repository	62%	10%		6%	3%	19%
LinkedIn	52%	9%	17%	9%	4%	9%
Facebook	36%	5%	15%	8%	18%	17%
Twitter	30%	4%	13%	10%	16%	28%
Enterprise Social Network (behind firewall)	27%	7%	6%	13%	10%	38%

- Used strategically today
- Will be used strategically in next 12 months
- Allowed for individual use only
- Evaluating use
- Not allowed
- Not aware/no plans

CedarCrestone 2014-2015 HR Survey

For the younger generation entering the workforce today, social technology is often the mode of communication with which they are most comfortable.

The challenge for many businesses and HR organizations is that these technologies are still viewed as a set of platforms and tools — just another delivery channel — and it may feel uncomfortable to use these platforms within the context of a business environment.

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Perceived Value of Social Tools	
Better candidates	74%
Improved employee engagement	64%
Improved collaboration	58%
Improved speed of a given process	31%
Improved decision making	26%
Improved task completions	25%
Improved service delivery	25%

Investments in Mobile and Social technology have a significant impact on overall application adoption levels, as well as user experience scores.

CedarCrestone 2014-2015 HR Survey

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Wearables are devices that leverage wearable RFID/Mobile-tracking technology to capture data from the person carrying or wearing the device.

Data from these devices can be used to capture information on an employee's **location**, **vital signs**, **habits**, **experiences**, **environment**, and a continuously growing list of items based on the **innovation of sensor development**.

Only 7% of the responding organizations use Wearable technologies today.

Examples:

● Life fitness and wellness tools

● Wearable panic buttons for hotel employees

● Workforce time tracking and scheduling tools

● Tools to support clinical rounds or visits by nurses, technicians, and doctors

60% identify the top benefit as increased workforce productivity.

As **Wearables continue as a trend**, HR and IT will need to work closely together to address **privacy concerns**, **data usage policies**, **growing regulations**, and **security questions**. CedarCrestone 2014-2015 HR Survey
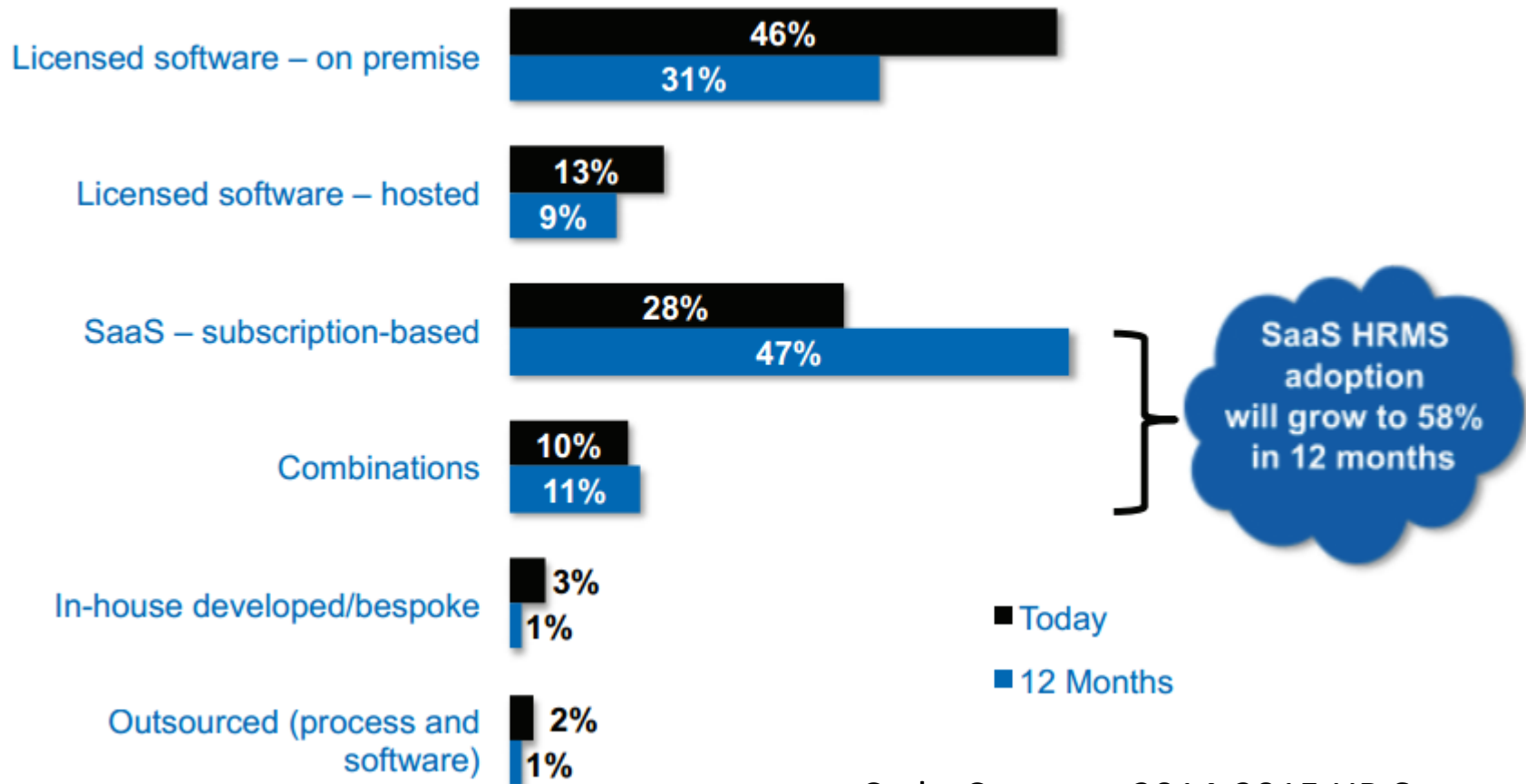
Trend – Moving to SaaS

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: **Reasons for Moving to SaaS – HR, IT, and Executives (n=1,022)**

		Stakeholder Rankings		
		HR	**IT**	**Exec.**
1	Improved user experience for employees, managers, as well as HR	76%	1	1	1
2	Easier upgrades	61%	2	2	3
3	Best practice functionality	58%	3	3	5
4	Faster time to implement and achieve value	50%	5	4	4
5	Eliminates dependence on IT	50%	4	6	6
6	Reduces need for internal infrastructure	48%	6	5	2

CedarCrestone 2014-2015 HR Survey

Licensed software versus SaaS

2014–2015 HRMS Deployment Models

Licensed software – on premise
- 46% (Today)
- 31% (12 Months)

Licensed software – hosted
- 13% (Today)
- 9% (12 Months)

SaaS – subscription-based
- 28% (Today)
- 47% (12 Months)

Combinations
- 10% (Today)
- 11% (12 Months)

In-house developed/bespoke
- 3% (Today)
- 1% (12 Months)

Outsourced (process and software)
- 2% (Today)
- 1% (12 Months)

■ Today
■ 12 Months

SaaS HRMS adoption will grow to 58% in 12 months

CedarCrestone 2014-2015 HR Survey

The traditional HRIS/ ERP systems are being replaced by Software as a Service (SaaS) applications which are faster and easier applications (Patel, 2015).

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