

Cloud Technology and Human Resource Management

Ms. Renuka Kumar

BBA (II), Symbiosis Centre for Management Studies, Symbiosis International University, Pune

renuka.natarajan@associate.scmspune.ac.in

Abstract

Human Resource Managers today cannot imagine life without the HRMS softwares (Human Resource Management System Software) to update employee databases and skype to take interviews of candidates in distant lands. Technology has penetrated so deep into almost every field that works without it seems almost impossible in the 21st century. There is hype about yet another technological breakthrough that has the potential to turn the HR world upside down. Cloud technology is here and it is here to stay. Moving from an Human Resources Information System (HRIS) to a Human Capital Management (HCM) technology and now more recently to the HRMS systems that most organizations today use, cloud technology is set to take organization and communication to a whole new level. The big question is whether this cloud technology is any better than the systems that already exist in organizations today and if it is, is it feasible?

JEL Classification Code O15

Keywords: HRMS systems, HRIS systems, cloud technology, communication

Introduction

ISSN 2348-0661 Print

© 2016 Symbiosis Centre for Management Studies, Pune
Annual Research Journal of Symbiosis Centre for Management Studies, Pune
Vol. 5, March 2017

The IT industry has been one of the fastest growing industries in the 20th and 21st century. Not only has introduction of computers and advanced technologies helped make work easier, faster and more efficient, but it has altogether changed the face of many industries.

Technology in the field of Human Resources has seen tremendous growth over the last decade or so. Starting from the 1990s, technology in the field of HR has emerged as a separate market in itself. The initial development started with the coming of HR software that were specifically designed to make lives of HR employees easier.

The initial HR software, the HRIS system emerged in the early low-tech era, around 1980-1990s (Faruk Bhuiyan, 2014) (Rietsema, n.d.). It allowed employees of the HR department to perform all core HR functions as well as subsidiary functions like absence management, training, compensation, workflow management and reporting work through the software. This way a lot of paperwork could be avoided, thus making the working of the entire department and the organization at large much more efficient. Employees could be dealt with much faster and solving their queries became easier.

Following this, came the HCM system. This system added on to the benefits offered by the HRIS system. Through the HCM system, the department could perform analytical functions, succession planning, salary planning, position control and even performance appraisal of employees.

Developing on this software, the HRMS software was released. This software is one more step ahead of the HCM software. It not only allows the user to perform all the activities that are can be performed with the HCM software, but also provides the user with a simple solution to manage all payroll problems. It allows the user to organize time and labor efficiently. As per the figures of (Andrew Hill, 2014), the market for HRMS is around \$12 million.

Cloud technology, however, is the new buzz in the market. In September 2011, the National Institute of Standards and Technology (NIST) defined cloud computing as “a model that provides ubiquitous, convenient, on-demand network access to a shared pool of computing resources like servers, networks, storage, applications and services with minimal management effort and service provider interaction” (Majendran, 2013). Cloud technology has the potential to

transform the way business is done today and the change has already begun. The online shoe retail business Zappos, for example, have almost completely eliminated job posting. They now recruit through an online community called InsideZappos and also social media websites like Twitter or Facebook. As a result of this, their candidate pool has tripled. (Kajiwara, 2015).

Types of Cloud Solutions

In his article says that there are 3 different types of cloud technologies (Specht, n.d.). Starting from the least complicated, these are First Infrastructure as a Service (IaaS), and Platform as a Service (PaaS) and the most commonly used Software as a Service (SaaS).

First Infrastructure as a Service or IaaS is the most basic type of cloud technology. In this system, a vendor provides the user with a virtual server (usually in the form of a website) to deliver specific applications. This type of service can be public or private. Most IT companies today have resorted to installing private IaaS in their organizations that have had a great impact on the functioning of the HR department. Most information is now stored on these cloud platforms. There is no hassle of enough memory or space in the hard disk and the risk of losing data is further minimized. However, IaaS is not as advanced since the vendor has partial control over the technology.

Platform as a Service (PaaS) is a technology where a platform is provided to companies to build and develop on software solutions to ease their work, rather than focusing on hardware, operating systems and databases. This platform allows a lot of HR functions to go online like recruitment, screening and learning management. Nowadays even resumes are uploaded online and the entire recruitment process can be completed online.

Finally, the most updated version of this technology in the field of HR is the Software as a Service (SaaS) technology. This is the form of the technology where most number of people are able to interact with the technology. The server, in this case, usually provides the entire software to the user through an application which does not need to be installed or upgraded because the vendor automatically does this onto the cloud. The user has to only upload and manage information that is stored in the cloud. No upgradation or updating needs to be done by the user.

Cloud Technology Market

ISSN 2348-0661 Print

© 2016 Symbiosis Centre for Management Studies, Pune
Annual Research Journal of Symbiosis Centre for Management Studies, Pune
Vol. 5, March 2017

The market for cloud technology is one of the fastest growing markets in today's economy. Among the different kinds of cloud technology, the SaaS market is growing the fastest followed by the IaaS market. As per predictions by an article given by the Department of Commerce, USA, the predicted market for SaaS technology is valued at around \$106 billion. The report also predicts that by 2018, the revenues from the IaaS and PaaS market will add up to around \$55 billion. The report also identifies the major players in the Cloud technology market. The country that tops that list is Canada, followed by Japan and United Kingdom. Few other countries in the top 20 include Australia (10th), France (12th), Sweden (15th) and Malaysia (20th). (Jorge Pardo, 2016)

Some of the dominant companies that hold a major market share include Amazon, Microsoft, Google, Rackspace and IBM. (Cloud Computing Services Market - Global Industry Size, Share, Trends, Analysis And Forecasts 2012 - 2018, 2011).

Amazon's AWS (Amazon Web Services) generated a whopping \$7.88 billion, which is a 69% increase from last year. The company is one of the biggest players in this market and is expected to grow even more in the coming years. Microsoft is expected to increase its revenue from cloud market by 30% by 2018, as per Morgan Stanley. A report by the Synergy Research Group also estimates the market that the IaaS and PaaS markets have grown by 51% in 2015 and predict that the worldwide IT cloud service revenue will reach around \$127 billion by 2018. (Columbus, 2016).

Benefits of Cloud Technology

Whichever form of cloud technology is used by the organization, the manner in which HR functions and procedures take place has definitely witnessed drastic change. Benefits of this technology to the field of human resources are numerous.

1. ***Fast and safe*** – With cloud technology, employees across the organization have access to information that relates to them. The HR Manager does not need to constantly update information about different departments; the department heads can do it themselves. The HR is thus left to focus on more important decisions that are specific to their department. This way work is not only done faster but with greater accuracy and perfection. Also, all

information on the cloud is relatively safe when compared to paper documents that tend to get lost and get easily be destroyed.

2. **Easy implementation** – Cloud technology is easily available through many vendors to organizations nowadays. It is easy to purchase and also implement this technology in organizations today. All it takes is a matter of seconds to set the system up and put all the information on the cloud. Any big firm, for example, does not need to worry about installing all the hardware, finding space to accommodate that hardware and frequently contacting the IT department to manage problems with the computer.
3. **Decision making** – Many SaaS softwares today, provide add-on services like graphical representation, dashboards, key indicators and other organizational options. These prove to be of great help to managers when they have to make important decisions supported by facts and figures. According to a survey of across 650 countries across North America, Europe and Asia, conducted by PWC in 2015, 44% of these companies use cloud technology and 59% see benefits of performance management. (PWC, n.d.)
4. **Better talent management** – With all the recruitment details, regular performance appraisal results, resumes and work information of the employees, the HR can assess the potential of each individual employee. They can not only figure out training required for different employees at different levels but can also plan for the individual career development. This will help the HR Department to cater to needs of employees better and in turn increase the satisfaction at workplace of the workforce. Most big vendors of cloud solutions like Oracle and SAP provide specific options of talent management as part of their cloud solutions. (Oracle cloud , n.d.)
5. **Career Monitoring** – Through cloud technology, employees can see records of their performance instantly and track their development themselves. This works as a self-motivation technique for employees. In this system, the HR department does not need to constantly keep track of every employees' development; they can do it themselves. The aforementioned cloud solutions provided by Oracle also provide facilities for career and succession planning.
6. **One big family** – A key role of HR is to ensure that all employees in the organization feel an equal part of the organization. Through cloud systems, different employees in the

organization at different levels can access all the information they need at any time through a simple user ID and password. Employees need not request or disturb the working of other departments to acquire the information they need. The entire organization feels like one big family who can share all their information with each other at any time within the organization. It takes intranet to a whole new level.

7. **Global Model** – With more and more companies expanding beyond the boundaries of their own nation, the composition of employees in every firm is becoming more and more diverse and spread across the globe. In today's multi-national scenario, maintaining records of employees in different parts of the world and solving issues in different parts of the globe becomes a tedious job. Cloud technology provides a global model to solve this problem by allowing users from any part of the globe to access information anytime. Thus, employee queries and problems can be solved within seconds regardless of which city, state or country the employee is in. One of the leading companies in cosmetics and beauty products, Elizabeth Arden, for example, opted for a HCM based cloud solution in 2011. Today, this solution has resulted in increased global mobility, efficient management performance and improved reporting and analytical skills of employees. (Andrew Hill, 2014)
8. **Economical** – Greatest advantage of all is the cost involved in setting up the technology. For traditional HRMS systems, a particular version of software and specific computer hardware is required. However, for implementing cloud technology, the firm does not require to install any hardware. All the information is accessible remotely through smartphones, tablets or laptops. The major costs associated with this technology are maintenance and troubleshooting expenses. A survey conducted by a company called the Tech Pro Research in 2013 concludes that implementation of the IaaS cloud technology reduces costs by 67% (Maddox, 2013). Expense on installation of this technology becomes a minor operating cost rather than a major capital expenditure.

Challenges

The following are a few challenges that cloud technology in HR is faced with:

1. **Scope and understanding of the cloud technology** – The cloud technology is relatively new in the market. Hence before adoption, the company will need to gather enough information about the technology to know first whether the technology can work for their form of business and if it will be profitable. The employees will also have to be trained to understand different aspects of working of this new technology and measures to be taken in case of any mishap or problem. In order to acquire this information, the firm will need to spend valuable time and resources in research and decision making, which can have a negative impact on the working of the firm. Moreover, many employees may have a negative attitude towards a sudden change in the way the entire firm functions. This may result in poor morale, reduced productivity and conflicts between the employers and the employees.
2. **Confidentiality and security issues** –Most companies opt for a public cloud rather than a private one since it is more cost-effective. However, information stored on these public domains are easily accessible to malicious hackers from across the globe. There is a high risk of theft and misuse of stolen data. This can bring down even the biggest MNCs to ashes. Even in private cloud solutions, the company needs to put in place specific mechanisms for invisibility of data to third party so as to ensure security. There have been several cases of security breach and misuse of data like the iCloud Hack, the Target Security Breach, the Sony Pictures Hack, BlueCross Bluefield and the Kaspersky Hack, where images of people, their personal data (like date of birth, addresses, family member information etc.) as well important information like credit card numbers and bank account details have also been leaked. Not only is this a threat to the private sector but government databases have also been hacked like the United States Internal Revenue Service Hack where around 100.000 accounts were hacked and social security numbers, birth dates and addresses of all these victims were stolen. (Kuranda, 2015) (Rando, n.d.)
3. **Dependence on third party** – When a company deals with a cloud service vendor, they share a lot of valuable information with that third party and depend constantly on them for managing their data. This leads to a high level of dependence on third party which can leave in organization under threat of exploitation. Furthermore, since most public service providers are located in remote locations, there is full probability that a user may not be able to delete

any data from a cloud. Due to situations like vendor lock-ins, the user may not even be able to access their information in case the vendor faces some problem.

4. **Lack of accessibility** – The cloud can be accessed through any smartphone, tablet or laptop anywhere in the world but the catch is that this technology needs the presence of Internet to work. Without Internet connection, the cloud cannot be accessed and thus becomes almost useless. This is a major drawback that hinders the growth of the technology to less developed countries where Internet is not available in large parts of the county to a large number of its people. For example, in many rural villages in India, a majority of the population does not own smartphones. Even if they do own a smartphone, they lack connectivity to the Internet.
5. **Not always all-encompassing** – Different cloud vendors provide different sets of solutions. These sets may not always be able to perform all the functions that the employee wishes to perform through them. For example, a company may implement a particular cloud package in their firm that encompasses data management, recruitment, selection and payroll. However, the software does not touch upon the aspect of training or development, thus leaving the firm searching for a second cloud package that can fulfill that need. This not only increases expenses for the firm but also leads to wastage of time and valuable resources which when applied elsewhere could have been more profitable for the firm.
6. **Costs** – Although installation of the cloud technology saves the firm huge investment costs, the cost of training all the employees in the firm to use the technology, centralizing the IT services, improving competence in vendor management and cloud operations, and introducing IT governance structures in the organization as well as compensating for the lack of productivity and possible losses that the firm may face in the short run while installation.

Conclusion

The Cloud Market is the new buzz in the world of technology and it is catching up very fast in the HR market as well. This innovation has contributed tremendously in the field of HR, from talent management, decision making, succession planning to complete payroll systems and compensation management. The market for cloud solutions in HR has grown tremendously over the last few years and huge MNCs like Oracle, SAP, Amazon, and Microsoft now hold a massive share in this developing market. The benefits of this new technology are numerous and hold

great potential in the near future. However, this new technology also faces a number of challenges. A lot of different aspects of the technology need to be worked on and many problems need to be solved before this innovation establishes itself in the market. Despite its flaws, this new idea is capturing the market like raging fire. Companies are soon moving towards a completely digitalized world where almost nothing will be stored on pen and paper and Cloud solutions are a massive stepping stone towards that digitalized world!

References

- (n.d.). Retrieved from Oracle cloud : <https://cloud.oracle.com/talent-management-cloud>
- Andrew Hill, J. M. (2014, March 7). Race to the cloud. Deloitte University Press. Retrieved from <http://dupress.com/articles/hc-trends-2014-race-to-the-cloud/>
- Apuzzio, S. (2015). The Opportunities and Challenges of Cloud-Based HR Benefits Management. CPA Practice Advisor . Retrieved from <http://www.cpapracticeadvisor.com/news/12104303/the-opportunities-and-challenges-of-cloud-based-hr-benefits-management>
- Bersin, J. (n.d.). Retrieved from Forbes.
- Bhadani, R. (2014). A New Dimension in HRM: Cloud Computing. International Journal of Business and Management Invention.
- (2011). Cloud Computing Services Market - Global Industry Size, Share, Trends, Analysis And Forecasts 2012 - 2018. Transperancy Market Research. Retrieved from <http://www.transparencymarketresearch.com/cloud-computing-services-market.html>
- Columbus, L. (2016). Roundup Of Cloud Computing Forecasts And Market Estimates, 2016. Forbes. Retrieved from <http://www.forbes.com/sites/louiscolombus/2016/03/13/roundup-of-cloud-computing-forecasts-and-market-estimates-2016/#74ad663874b0>
- Filip Gilbert, P. C. (n.d.). The Cloud revolution within HRIS. Retrieved from Human Capital Advisory Services, Deloitte: <http://www2.deloitte.com/content/dam/Deloitte/lu/Documents/human-capital/lu-cloud-revolution-hris.pdf>
- Jorge Pardo, A. F. (2016). 2016 Top Markets Report. Department of Commerce, USA. Retrieved from http://trade.gov/topmarkets/pdf/Cloud_Computing_Top_Markets_Report.pdf

Kajiwara, M. (2015, August 28th). Retrieved from How Companies Are Using HR Cloud to Improve Hiring, Retention: <http://data-informed.com/how-companies-are-using-hr-cloud-to-improve-hiring-retention/>

Kuranda, S. (2015, July 27). CRN. Retrieved from [www.crn.com: http://www.crn.com/slideshows/security/300077563/the-10-biggest-data-breaches-of-2015-so-far.htm/pgno/0/7](http://www.crn.com/slideshows/security/300077563/the-10-biggest-data-breaches-of-2015-so-far.htm/pgno/0/7)

Maddox, T. (2013, September 4). ZDNet. Retrieved from <http://www.zdnet.com/article/research-67-percent-report-budget-reduction-with-iaas-implementation/>

Majendran, S. (2013, June). Organizational Challenges in Cloud Adoption and Enablers of Cloud Transition Program. USA: MIT Sloan School of Management .

Monk, J. (n.d.). Retrieved from Slide Share : <http://www.slideshare.net/JeffMonk/hcm-overview-2015>

PWC. (n.d.). Retrieved from PWC: <http://www.pwc.com/us/en/hr-management/technology/global-hr-technology-survey.html>

Rando, N. (n.d.). Search Cloud Computing . Retrieved from TechTarget: <http://searchcloudcomputing.techtarget.com/feature/Cloud-security-breaches-still-the-stuff-of-IT-nightmares>

Rietsema, D. (n.d.). Retrieved from HR Payroll Systems: <http://www.hrpayrollsystems.net/hris-system-question-premise-cloud/>

Specht, M. (n.d.). Retrieved from Specht.com: <http://specht.com.au/michael/2013/01/23/cloud-computing-and-hr/>