



Study of benefits of HR automation in organisations

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Abstract

With the increasing emphasis on evidence-based management, the human resources (HR) function has enthusiastically embraced technology with a view to provide more efficient and effective delivery of HR services. Supported by new technologies, such as cloud computing and analytics, the e-HRM applications are becoming ever more popular; however, the intangible nature of people management, social processes and actors and holistic nature of technology project management highlight the limitations of technology in HR services delivery. But implementing such automated tools for HR processes will definitely create a friction between the current and newly formulated practices. Employees may perceive this impact in a different way than the organization would. This study examines the perception of employees regarding HR process automation in terms of both individual as well as organizational level. Whether HR automation can deliver the quality and satisfaction that it promises? This remains a critical question to answer in today's fast moving technology dependent world.

Keywords: information systems, human resource, HRIS, e-HR, HR processes

Introduction

Managers today have to make better and faster business decisions than ever. Investments which are focusing on information technology are often considered as a critical method of speeding up and improving the management decision making. Yet it has proved distressingly difficult to understand the actual potential of investments in Information Technology. This is particularly common in business areas focusing on Human Resources (HR). In almost every organization, the responsibility of performing various strategic tasks such as management of the recruitment process, termination process, payroll management etc. lies within the Human resource department. Some of it may include, employee monitoring at different levels, payroll management, employee benefits, training and development, etc. In-order to make this work a lot more easier, organizations across the world are investing in HR automation in-order to find out and perform the best human capital decision. However, every organization are now looking for more advanced methods of automation, which may help them to manage various complex processes such as, Data storage, Data control and modifications, Effective communication process enhancement, better connectivity with all departments easily and swiftly which would also be useful for the long term goals of the organization. Information Technology has now considered as a potential tool that managers use, both generally, and in human resource functions in particular, to increase the capabilities of the organization (Tansley & Watson, 2000) [12]. Human Resource Information System is software that works by reducing the time taken to complete any given task by maintaining the quality of work. Organizations use this technique in-order to collect, store, secure and access the information by automating the various HR processes. Tannenbaum (1990) [11] defines a HRIS as a

system that is used to “acquire, store, manipulate, analyze, retrieve, and distribute information about an organization’s human resources” According to Broderick and Boudreau (1992) [4] a HRIS is the composite of databases, computer applications, hardware and software necessary to collect/record, store, manage, deliver, present, and manipulate data for human resources. Kovach and Cathcart (1999) [6] also gave similar definition of HRIS as any system for “collecting, storing, maintaining, retrieving and validating data needed by an organization about its human resources”. The biggest benefit to organizations of using IT in HRM is the freeing of HR staff from intermediary roles so that they can concentrate on strategic planning in human resource organization and development (Pinsonneault & Kraemer, 1993) [9]. A survey conducted in 1998 (Ball, 2001) [1] shows that 60 percent of Fortune 500 companies use the HRIS to support daily human resource management (HRM) operations. According to Srivastava & Bagga (2014) [10] the usage of HRIS differ among the sectors and also across the size of the organisation.

Literature review

Elisabeth Wilson-Evered and Charmine E.J. Härtel (2009) [13] conducted a survey study to assess staff attitudes towards and participation in the implementation of HRIS applications. Researchers identified important factors associated with the implementation of new HRIS. The successful implementation of new information systems requires that, within the organizational climate, people have positive attitudes towards innovation and new ideas. Based on extensive literature review the researchers predicted that workplace morale, workplace distress, effective, change leadership, job satisfaction, participation and involvement, and confidence in technology skills will influence openness to change and innovation required for effective implementation of HRIS.

Their findings clearly mentioned that the conditions that support successful implementation for HR staff will differ from those for line managers. The factors that influenced attitudes towards new ideas in HR/payroll staff are Morale, Leadership and Distress while the factors that influenced attitudes towards new ideas in line managers are Confidence in technology, Leadership and Job Satisfaction. Out of all the factors except distress are positively related with attitude towards new ideas. The survey conducted by Beadles, *et al.* (2005) ^[2] in order to gather information regarding the implementation of an HRIS, perceived benefits, satisfaction and its strategic impact, shows that the directors surveyed were satisfied with the system, but don't yet see many benefits from its usage outside of its effect on information and information sharing. Part of the problem may stem from the type of organizations that were sampled. Recruiting, hiring, and training probably are handled somewhat differently for public sector employees as compared to employees of private sector organizations, so HRIS in its current form may not yet have had much positive impact in these areas. Yet, it appears that there is potential for these benefits, as a large majority of the directors believed that the HRIS was not being fully utilized. Variable studied were: HR Processes, Time Savings, Cost Savings, Information Effects, Decision Making and Strategic Impact & HR's Role. Ngai & Wat (2006) ^[6] empirically compared the differences in perception between HRIS adopters and non-adopters as well as in the size of organizations in relation to the adoption of HRIS in Hong Kong companies. In addition they also identified the benefits that are perceived to be achievable through HRIS and the perceived barriers to the implementation of HRIS. According to their research quick response and access to information" is the greatest benefit as against the "enhancing competitiveness" which is perceived as the least beneficial by HRIS adopter. The greatest barrier to the adoption of HRIS was insufficient financial support where as "A lot of paperwork that is difficult to computerize" perceived as the least barrier of HRIS to implement HRIS. This study found no significant differences between HRIS adopters and non-adopters on the perceived benefits of implementing HRIS. Also, the perception of HRIS adopters did not vary significantly by company size. However, some perceived benefits and barriers did vary significantly by company size. Mark & Steve (2003) ^[7] conducted a case based research on three companies that have adopted some form of e-HR. They characterized e-HR into three forms: publishing Information, automation, and transformation. Factors that impact the organization adoptions are: 'availability and accessibility of personal computers with broadband Connections', 'the proportion of an organization's employees who are computer- and Interact-literate', and 'the number of human resource professionals and information technology specialists with the expertise to design and implement custom-fitted solutions for their organizations.' Research findings of Fernandez-Sanchez *et al.* (2006) concluded that that the use of business HRIS is in

a developing and retrieval stage but despite of that it has positive influence on the recruitment process. The findings clearly indicated that a quite large proportion of organizations rely on HRIS systems for at least one the stages of the recruitment process. "The presence of these applications is scarcer for the most complex and delayed in time tasks, such as decision making processes, because they require, in return, more complex HRIS. It was also observed that two groups of organizations lead the HRIS implementation trend: the parent companies, with regard to their subsidiaries, and the largest firms in terms of number of employees. This seems a logical finding because their more complex structures may benefit more of the advantages of HRIS to increase the efficiency of their recruiting processes." As per the author's belief, HRIS add competitive value to the HRM department and also to the firm. However they had reservations supporting that IS gives a sustainable competitive advantage to the firm. Bell, *et al.* (2006) collected data through interviews with senior HR professionals from 19 Fortune 500 companies to examine the role of information technology (e-HR) in shaping the competency requirements of HR professionals. The data suggested that information technology has the potential to play an important role in this change process. The HR executives we interviewed indicated that information technology has allowed the HR function to focus less attention on routine, administrative tasks and dedicate more energy to delivering services that add value to the business. Interviews also indicated that eHR require HR professionals to have a sound understanding of the business and should have ability to solve business problems with management. e-HR also provide specialization and expertise in functional HR delivery. Together, these competencies enable HR professionals to offer state-of-the-art services that are aligned with the business needs.

Research Methodology

Keeping the objective of this research in focus, an empirical research was conducted as analysis was selected as a research method. A pre-tested structured questionnaire was used to collect data from HRIS users in India. To ensure that the study was reliable, internal consistency was tested on the questionnaire by using Cronbach's alpha was used to collect the data, and a pilot study was undertaken on the samples to test the questionnaire. An ideal reliability should be greater than 0.70 which is acceptable. Higher the number obtained than 0.70 the better. The reliability of the tool comes to be .89 which shows that the instrument is highly reliable. Mean, t-test and factor analysis are used for data analysis using SPSS-19.

Data analysis and findings

In order to understand the overall perception of the employees with respect to the benefits that an employee perceives at individual level, mean scores have been calculated.

Table 1: Mean Score of the HRIS benefits

	Test Value = 3						
	Mean	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Increase in access for information	3.8485	9.938	299	.000	.84848	.6790	1.0179
Reporting to the line manager is more often	3.3737	4.037	299	.000	.37374	.1900	.5575
There is a timely availability of information to carry on the work process	3.8283	10.192	299	.000	.82828	.6670	.9896
Increase in transparency of merit/quality/target achievement	3.7475	8.097	299	.000	.74747	.5643	.9307
It feels that PMS is more merit based	3.6162	7.504	299	.000	.61616	.4532	.7791
On time receipt of salary	4.2525	15.582	299	.000	1.25253	1.0930	1.4120
There is opportunity to understand equity in pay packages.	3.6364	7.341	299	.000	.63636	.4643	.8084
Performance evaluation for is accurate	3.5960	6.741	299	.000	.59596	.4205	.7714
More access for learning possibilities (Training material, technological upgrades etc.)	4.0202	12.190	299	.000	1.02020	.8541	1.1863
Targets/outputs are available with more clarity.	3.9394	10.783	299	.000	.93939	.7665	1.1123
The expectation on work output has increased	3.8384	13.149	299	.000	1.12121	.9520	1.2904
The time taken to resolve issues have narrowed	3.9293	9.267	299	.000	.83838	.6588	1.0179
The work pressure on employees is more		11.853	299	.000	1.09091	.9083	1.2736
Increase in monitoring the work errors at jobs are not excused		12.651	299	.000	.89899	.7580	1.0400
Expected to me more self -driven		9.957	299	.000	.92929	.7441	1.1145

Many respondents have agreed that HR automation will help in increase of access of information. More than average number of respondents agrees that there is a timely availability of information to carry on the work process. Maximum number of respondents agrees that HR automation will help in the timely credit of their salary or income. From the above table it can be observed that employees perceive HR automation gives employees more autonomy at work. It is can be observed that the p value <0.05 which clearly shows that users on all the benefits employees

Factor analysis

Factor analysis is used to find factors among observed variables. In other words, if your data contains many variables, you can use factor analysis to reduce the number of variables. Factor analysis groups variables with similar characteristics together. With factor analysis you can produce a small number of factors from a large number of variables which is capable of explaining the observed variance in the larger number of variables. The reduced factors can also be used for further analysis. In the current research all the benefits were classified using factor analysis. The Table results presents the same.

Table 2: Factor Analysis

	Component				
	1	2	3	4	5
Increase in access for information	.	.479			
Reporting to the line manager is more often			.561		
There is a timely availability of information to carry on the work process	.823				
Increase in transparency of merit/quality/target achievement	.682				
It feels that PMS is more merit based	.634				
On time receipt of salary					.623
There is opportunity to understand equity in pay packages.	.649				
Performance evaluation for is accurate		.572			
More access for learning possibilities (Training material, technological upgrades etc.)	.690				
Targets/outputs are available with more clarity.	.834				
The expectation on work output has increased	.796				
The time taken to resolve issues have narrowed	.572				
The work pressure on employees is more	.523				
Increase in monitoring the work errors at jobs are not excused	.616				
Expected to me more self -driven.			.607		

Extraction Method: Principal Component Analysis.
a. 5 components extracted.

From the component matrix one can comprehend that for the fifteen variables, five major components were extracted. Among these five components four components significantly contribute towards understanding employee perception about automation of HR processes. The following factors have been identified as the major contributors.

a) Automation as an enabler for HR

- b) Automation as an enabler for information access and evaluation accuracy
- c) Automation as an enabler for Structured/Linear reporting
- d) Automation as an enabler for Salary Administration.

Conclusion

The discussion of the effects of HR Automation perceived buy

the employees regarding both individual as well as organizational perspective, presented in this Study is far from comprehensive. HR automation influences people, organizations, and societies in innumerable other ways. Perhaps we can identify some unique effects that Information Technology has on the way we live, learn, work, and play. Nevertheless, the variables studied in this research are sufficient to recognize that the changes caused by HR automation introduce a variety of new issues for individuals and Organizations and radically alter the importance of certain preexisting cultures and practices. Each technology is likely to affect multiple groups of people, whether directly or indirectly. Moreover, the effects of any given technology are rarely only beneficial or only detrimental; they typically create a complex web of consequences that may be both positive and negative. This study and the entire research reveal that evolution of HR process automation is not happening in a vacuum. Information technology has developed into an integral part of modern Organizations, becoming interrelated with numerous aspects of the work environment. Further advances in information technology will inevitably reverberate in the culture of individuals, as well as organizations. In the same manner, changes in the individual and organizational work pattern will create new demands that will encourage the development of new technologies.

In order to understand the overall perception of the employees with respect to the benefits that an employee perceive at individual level, various tests were attempted. From the results it is clear that, employees perceive HR process automation is beneficial for an organization as well as themselves. Employees believe that HR automation will help in increase of access of information within the organization. This will further enhance the clarity of work as adequate and necessary information dissipation. They agree that there is a timely availability of information to carry on the work process due to automation. Individuals agree that HR automation has helped in the timely credit of their salary or income and hence made the whole system of salary administration simple. From the study it can be observed that employees perceive HR automation gives employees more autonomy at work.

In order to understand the employee perception on the organizational benefits in HR automation within organizations, the same tests were attempted. From the results it is clear that, HR automation will increase the quality of HR delivery. It is also clear from the study that employees perceive, Automating HR processes encourages better and virtual feedback. They believe, automating HR processes will help in building the concept of egalitarianism. A sense of togetherness within the organization. This will improve relations and further enhance the organizational culture. People also perceive that HR process automation will make people more virtual. The major findings also include the fact that employees believe Automating HR processes will not delay the decision making time. Also they disagreed to the fact that Automating HR processes does not affect employee interaction in an organization. They believe HR process automation will improve the work culture. It will decrease the decision making time and also they believe that organizations will benefit from factors including employee motivation, satisfaction, productivity and Time.

References

1. Ball KS. The use of human resource information systems: a survey. *Personnel review*. 2001; 30(6):677-693.
2. Beadles II, Aston N, Lowery CM, Johns K. The impact of human resource information systems: An exploratory study in the public sector. *Communications of the IIMA*. 2005; 5(4):6.
3. Bell BS, Lee SW, Yeung SK. The impact of e- HR on professional competence in HRM: Implications for the development of HR professionals. *Human Resource Management*. 2006; 45(3):295-308.
4. Broderick R, Boudreau JW. Human resource management, information technology, and the competitive edge. *The Executive*. 1992; 6(2):7-17.
5. Fernández-Sánchez JA, de Juana-Espinosa S, Valdés-Conca, j. use of HRIS in recruitment process. The spanish case.
6. Kovach KA, Cathcart Jr CE. Human resource information systems HRIS: Providing business with rapid data access, information exchange and strategic advantage. *Public Personnel Management*. 1999; 28(2):275-282.
7. Mark LL, Steve M. The impact of e-HR on the human resource management functioning. *Journal of Labor Research*. 2003; 24(3):365-378.
8. Ngai EWT, Wat FKT. Human resource information systems: a review and empirical analysis. *Personnel Review*. 2006; 35(3):297-314.
9. Pinsonneault A, Kraemer K. Survey research methodology in management information systems: an assessment. *Journal of management information systems*. 1993; 10(2):75-105.
10. Srivastava S, Bagga T. A Comparative Study on the Usage of HRIS in the IT/ITES, Services, and Manufacturing Sectors in the Indian Scenario. *Prabandhan: Indian Journal of Management*. 2014; 7(6):21-36.
11. Tannenbaum SI. Human resource information systems: User group implications. *Journal of Systems management*. 1990; 41(1):27.
12. Tansley C, Watson T. Strategic exchange in the development of human resource information systems HRIS. *New Technology, Work and Employment*. 2000; 15(2):108-122.
13. Wilson- Evered E, Härtel CE. Measuring attitudes to HRIS implementation: A field study to inform implementation methodology. *Asia Pacific Journal of Human Resources*. 2009; 47(3):374-384.