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Barriers in Implementing HR Analytics – A Study of IT/ ITES Companies in India

[1]Hargovind Kakkar & [2]Sanjay Kaushik

[1]Research Scholar, University Business School, Panjab University, Chandigarh & Assistant Professor, Amity Business School, Noida Amity University-Uttar Pradesh, INDIA

[2]Professor, University Business School, Panjab University, Chandigarh, INDIA

Abstract: For the HR Function, it is data and automation which is taking it forward. The function has progressed from being just a support function which dealt into mere reporting. The function has come a long way with HR Analytics now in the phase of not just predicting but prescribing the best case scenario(s). Change is not easy and turning people into numbers is again questionable. Analytics is the need of the hour but are the practitioners ready to take it forward and are they equipped to do it? The paper investigates the barriers in the process of Implementation of HR Analytics. From literature some possible barriers have been identified ranging from data challenges to alignment to talent availability in performing HR Analytics. Primary data is collected from 20 IT/ ITES companies based out of India. The HR Professionals have shared their views on the barriers. Statistical analysis has been done. Descriptive Analysis and T-Test has been applied to showcase the results.

Key Words: HR Analytics, Human Capital, Barriers, People Analytics

INTRODUCTION

"In God we trust, all others must bring data" – W. Edwards Deming.

HR Analytics is the change which the practitioners are embracing. This change is an update to bring HR into mainstream. The evidence of HRM lies in HR Analytics. In the age of technology, the process of analyzing and looking at details is very scientific and is making a tremendous impact on business decisions. Alignment with strategy is critical and benchmarking is outdated; what is required is looking at your own metrics and carving your own options and reaching to the best possible scenarios. It is uneasy to move to analytics and thus these barriers are vital to be identified.

Before we get into the literature of barrier(s), it is important to understand the importance of data. Rowley (2006) created the DIFW hierarchy where it explained that data in isolation is only data and holds meaning only if processed into useful information. This information further passes the tests of validation converts into knowledge; which furthers polishes along with human intuition to become wisdom. The wisdom hierarchy was showcased in the stages of how data leads to wisdom. Rowley (2006) concluded that in the lower levels of the DIKW more technological input and programmability can be useful than in the upper levels. Technological advancement has improved the way analysis of data is done in today's times but human judgement is still is required for transforming data into insightful results. Further, the different stages of the DIKW hierarchy are examined to understand the different phases of the data.

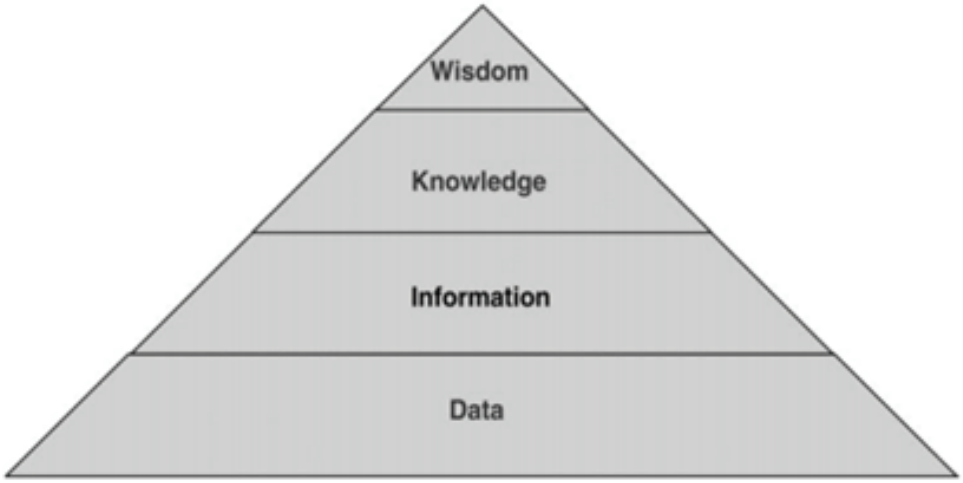

Fig. 1: The DIKW hierarchy. Adapted from Rowley J. (2006)

Level 1 of the data is described as outcome of observation that is of no use. Ackoff (1989). Data is present, holding no meaning or value of its own. Rowley (2006) describes data as unorganized and unprocessed. Level 2 is described as information which is data with a meaning (Ackoff, 1989). Rowley (2006) stated this as organized or structured data. According to Fitzenz & Mattox (2014), structured data is more traditional and it refers to the financial data like costs and quantities. Unstructured data again refers to the economic or less tangible data, for example nonnumeric images, text and audio (Fitz-enz & Mattox, 2014).

The requirement is of structured data over unstructured data. However, we are moving in the phase of creating more unstructured data in the form of images, videos and audio content on the web. Fitz-enz & Mattox (2014) also stated about hybrid data a combination of unstructured and structured data. Hybrid data brings new possibilities in utilization of data but it also becomes more complicated in analysis. Level 3 is Knowledge in the hierarchy. It reasons out the information. Rowley (2006) detailed that multiple definitions of knowledge are available and it is usually explained as a combination of information and experiences as well as understanding and skills. It is a sum total of 'Explicit' knowledge or documented knowledge or 'know what' in reports, documents, books etc. (Laudon & Laudon, 2006; Awad & Ghaziri, 2004) and 'Tacit' knowledge or the individual knowledge of experiences, beliefs, perspectives or the 'know how' (Jashapara, 2005). Wisdom is the fourth and the highest level of the DIKW Pyramid. The explanation to wisdom is limited. (Rowley, 2006). Jashapara (2005) see that the concept of wisdom is very elusive. It can be seen to have a strong connection to human input, which Rowley (2006) describes as "human intuition, understanding, interpretation and actions".

For an organization, it is vital to use the unstructured raw HR Data and convert it into knowledge and wisdom so that accurate business decisions can be made. In other words, Data Analytics move from descriptive to diagnostic to predictive to ultimately prescriptive in a similar hierarchy. But, there are barriers to performing this process. The same are described in the review of literature.

REVIEW OF LITERATURE

Rasmussen & Ulrich (2015) detailed that that Human Capital Analytics has often an "inside-out" HR perspective and is always justifying the correct methods and procedures followed by the HR function which makes it narrow an approach. Rasmussen & Ulrich, (2015) stated that HR needs to follow an outside-in approach. This implies that HR should be in the role of a strategic partner, which means that the decisions are not only data-driven but also they need to connect them to what happens outside the organization in the business environment and external stakeholders, most importantly to the customers.

TEAMS – COMPOSITION, STRUCTURE AND REPORTING

Falletta (2014), HRA teams typically consist of 10-12 full-time professionals (but their number is often underestimated due to the presence of mixed roles), furthermore the staffing levels of HRA teams are generally proportional to company revenues and overall number of employees. According to Pease (2015), it is not optimal to not have full-time dedicated team members for HRA as this may lead to unclear expectations, lack of guidance and unstructured task. Having moved to outside experts, there is a sense of skepticism towards the skills of these professionals on the domain or function. (Angrave et al. 2016).

DATA

Fitz-Enz & Mattox (2014) detailed that that majority of Human Capital data is unstructured. The data is in the form of images, text or audio. Also, with the rise in social networking this unstructured data will continue to grow. In practice both the structured and unstructured data will be merged into sort of hybrid data which will further complicate the analytic process. Angrave et al. (2016) stated that compared to other functions, HR usually occupies a marginal position and its initiatives are not valued and supported by other functional heads. Also, the authors stated that organizations are often affected by silo or mentalities and it can be hard to merge data from different functions. Baron & Armstrong (2007), stressed on the issue that data is available in plenty i.e. from recruitment, performance management, payroll, employee engagement surveys etc and also from other functions viz finance and operations. The problem lies in interpretation of the data. Fitz-Enz (2010), stressed upon the quantum of data HR generates in terms of reports and metrics which is not converted to meaningful information and thus this mass of data have no great value and they do not support in management decision making.

ALIGNMENT

Fitz-Enz (2010) specified that HR often focuses on the measurement of process over results. The Metrics adopted measure HR functions activity and are not connected to the impact on business. Common feature is to indicate costs and time but no relation is ascertained of the same with business. HR needs to showcase the value added by the function rather than merely showing disconnected metrics. Instead of addressing what is happening with the human resources function, HR should demonstrate what value HR produces for the company. For each presented metrics HR should ask itself: What difference does this make? What is the outcome? What management decisions and actions can be based on this information? (Fitz-Enz 2010). Lawler et al (2004) stated that the HR related data is difficult to measure and not critical in relation to business strategy. Data collected is more for operational purposes and is for HRM and not for business as a whole.

MEANINGFUL MEASUREMENTS

The concept of "Big Data" is also questionable as quality is preferred over quantity. Meaningful, useful data is what is needed. Metrics should be able to answer business questions and solve business problems rather than just heaps of data. HR needs to filter business information and focus on quality. (Fitz-Enz 2010; Pease 2015; Rasmussen & Ulrich 2015). The key to making most HR measurements are based on the past trends. (Fitz-Enz 2010). HR Metrics are available at one accessible place and they produce a lot of important data but what is required is the interpretation to act on these results. Using Dashboards and scorecards and getting results out of them is important but it is more important to use these results for business decisions. (Pease, G. 2015). Robinson (2017) stated that in analyzing human capital, it is the 'how' which matters above the 'what'. Data cannot interpret itself; it requires meaningful analysis for further effective use. Also, two dimensional metrics are more meaningful than one which means using past and future both to derive results is important rather than just using the past.

SCARCITY OF TALENT

According to the Chartered Institute for Personnel and Development, the HR function lacks the necessary skills, knowledge and insight to ask the right questions of the HR data they have at their disposal (Rasmussen and Ulrich, 2015). Even when HR does have good ideas about how to develop analytics, the relatively peripheral position of HR within the orga-

nizational hierarchy may prevent the project from being able to mobilize the support to go forward, or to get the results of analysis acted upon. As Levenson (2013) already pointed out, it is to conclude that HR professionals need to improve their competencies in order to be able to utilize HR analytics as part of the decision-making processes.

ANALYTICS ITSELF

Analytics might offer a good excuse to treat employees as pure resources and special attention should be paid to the "human side" of human resources (Davenport et al., 2010). Analytics functions as excuse to treat employees as pure resources Managerial challenges Trust in the highest-paid person's opinion and intuition Organizational culture and/or management do not support the analytical culture or its development Ethical and privacy related challenges Not been able to protect the sensitive employee information Organizations might be exposed to discrimination lawsuits when collecting and utilizing data of employees Is it ethical to collect a wide range of data on the employees?

MANAGEMENT

McAfee & Brynjolfsson (2012) have raised this question with the term "HIPPO". HIPPO is an acronym used to describe that the decision matters when it comes from the highest paid person or "highest-paid person's opinion" and when it comes to individuals their intuition will never be correct at all times. McAfee & Brynjolfsson (2012) also note that this place demands on the entire organizational culture. Instead of asking the question "what do we think", the right question should be "what do we know".

PRIVACY CONCERNS:

Data privacy is a major concern as individuals are under threat because of technology. Castellano (2014) emphasized that organizations have to be more responsible and capable of protecting sensitive employee information. Gale (2015) stated that there are legal implications to exposing data of individuals to third parties. Also, as the pace of data getting generated is very high because of the digital medium and the information sharing over the web, it is important to ask that do organizations have the right to collect data of employees.

RESEARCH METHODOLOGY

The primary objective of the paper is to study barriers in implementing HR Analytics. The secondary objective is to examine the importance of various levels between executive and managerial employees. The research design is exploratory. The sample size is 218 HR Professions across Executives and Managerial level from 21 IT and ITES companies in India. The sample method is convenience and snowball samples as HR Analytics is a specialized area under the HR function and snowball sampling helped in reaching out to the right practitioners. A structured questionnaire was used to collect primary data. Close ended questionnaire with statements were to be marked on a Likert scale of 1 – 5 (1 - Strongly Disagree to 5 - Strongly Agree). The secondary data were collected through books, research papers, articles, thesis and other unstructured web sources. Data analysis is done through descriptive analysis and t-test.

DATA FINDINGS AND ANALYSIS

From the literature, majorly 10 barriers were identified viz. Lack of analytic skills in the workforce, Lack of access to real-time workforce analytics, Lack of HR Alignment with business strategy, Multiple HR databases with little to no integration, Little or no integration of HR systems , Outdated or inadequate analytic tools and technology, Analytics are not a priority for the organization, Lack of budget for HR Measurement, Lack of data about individual employee performance and Concerns with the Organization Structure. Data is further analyzed with the use of statistical tables and use of t-test.

Table1.0 Descriptive Analysis of Barriers in Implementing HR Analytics

	Descriptive Statistics					
		N	Minimum	Maximum	Mean	Std. Deviation
1	Lack of analytic skills in the workforce	218	1	5	3.87	1.231
2	Lack of access to real-time workforce analytics	218	1	5	3.53	1.030
3	Lack of HR Alignment with business strategy	218	1	5	3.61	1.338
4	Multiple HR databases with little to no integration	218	1	5	3.80	1.411
5	Little or no integration of HR systems (performance etc.) with other enterprise systems (CRM etc.)	218	1	5	4.24	1.300
6	Outdated or inadequate analytic tools and technology	218	1	5	3.10	1.338
7	Analytics are not a priority for the organization	218	1	5	3.10	1.446
8	Lack of budget for HR Measurement	218	1	5	3.00	1.483
9	Lack of data about individual employee performance	218	1	5	2.95	1.359
10	Concerns with the Organization Structure	218	1	5	3.95	1.146
	Valid N (listwise)	218				

The table shows the descriptive statistics of Barriers in Implementing HR Analytics. The Mean values for all the 10 Barriers are more ranging from 2.95 to 4.24. The data shows that the practitioners stated that the biggest barrier with a mean of 4.24 is "little or no integration of HR systems with other enterprise systems". The second most agreed barrier with a score of 3.95 is "concerns with the organization structure". It is important to note that HR Analytics is possible when the HR and IT Teams of the company jointly work together in performing measurements using advanced technological tools, which is agreed as a barrier by HR practitioners. The third most important barrier is "Lack of analytic skills in the workforce" with a score of 3.87. The least rated barrier is Lack of data about individual employee performance with a score of 2.95. Most of the professionals disagree as the data (to some extent) is available about individual employee performance.

Table2. Mean Scores of Barriers in Implementing HR Analytics for levels of employees

Group Statistics				
	Level of the Employee	N	Mean	Std. Deviation
Concerns with the Organization Structure	1	70	4.22	1.134
	2	148	3.68	1.191
Analytics are not a priority for the organization	1	70	2.91	1.254
	2	148	3.27	1.737
Lack of budget for HR Measurement	1	70	2.73	1.397
	2	148	3.27	1.679
Lack of HR Alignment with business strategy	1	70	3.72	.976
	2	148	3.50	1.537
Lack of data about individual employee performance	1	70	2.79	.976
	2	148	3.11	1.578
Lack of access to real-time workforce analytics	1	70	3.75	.577
	2	148	3.31	1.328
Outdated or inadequate analytic tools and technology	1	70	2.75	.976
	2	148	3.45	1.572
Little or no integration of HR systems (performance etc.) with other enterprise systems (CRM etc.)	1	70	4.41	1.254
	2	148	4.07	1.489
Multiple HR databases with little to no integration	1	70	4.11	1.254
	2	148	3.49	1.629
Lack of analytic skills in the workforce	1	70	4.28	.756
	2	148	3.46	1.489

The table shows the mean scores of barriers in implementing HR analytics level wise for executives (1) and managers (2). Total sample of 218 collected had 70 HR Practitioners at executive level and 148 at managerial level. The table shows the maximum mean score of 4.41 by executive level HR employees for the barrier – 'Little or no integration of HR systems with other enterprise systems. The second most important barrier highlighted by executives is 'Lack of analytic skills in the workforce'. For the employees at managerial level, the most agreed barrier is the same as 'Little or no integration of HR systems with other enterprise systems' with a score of 4.07. The second most important barrier is 'Concerns with the Organization Structure' with a score of 3.68. The least important barrier for the executives is 'Lack of budget of HR Measurement' with a score of 2.73 and the least important barrier for managers is 'Lack of data about individual employee performance' with a mean score of 3.11.

Independent Samples Test				
		t-test for Equality of Means		
		t	Df	Sig. (2-tailed)
Concerns with the Organization Structure	Equal variances assumed	-1.492	16	.155
	Equal variances not assumed	-1.510	13.414	.154
Analytics are not a priority for the organization	Equal variances assumed	-.734	16	.474
	Equal variances not assumed	-.791	15.625	.441
Lack of budget for HR Measurement	Equal variances assumed	-1.106	16	.285
	Equal variances not assumed	-1.154	14.662	.267
Lack of HR Alignment with business strategy	Equal variances assumed	-.932	16	.365
	Equal variances not assumed	-1.030	15.989	.318
Lack of data about individual employee performance	Equal variances assumed	-.990	16	.337
	Equal variances not assumed	-1.100	16.000	.288
Lack of access to real-time workforce analytics	Equal variances assumed	-.339	16	.739
	Equal variances not assumed	-.399	14.666	.696
Outdated or inadequate analytic tools and technology	Equal variances assumed	-1.538	16	.143
	Equal variances not assumed	-1.708	16.000	.107
Little or no integration of HR systems (performance etc.) with other enterprise systems (CRM etc.)	Equal variances assumed	-.822	16	.423
	Equal variances not assumed	-.855	14.568	.406
Multiple HR databases with little to no integration	Equal variances assumed	-.896	16	.384
	Equal variances not assumed	-.951	15.256	.356
Lack of analytic skills in the workforce	Equal variances assumed	.021	16	.983
	Equal variances not assumed	.024	15.501	.981

Table 3: The T Table clearly displays that there is no significant difference between the perception of executives and managers on the barriers in implementing HR analytics. As all the values of Sig (2-tailed) are more than 0.05. All figures for barriers are more than 0.05 at 95% level of confidence.

SUMMARY AND CONCLUSION

HR analytics is still sometimes seen as replacement for all human thinking. As this phenomenon is gaining importance, it becomes important to study the barriers associated with this concept of HR Analytics. The results highlight that most of these barriers are agreed upon. As the mean score for all the 218 HR practitioners is ranging between 2.95 to 4.24, it shows the relevance of all barriers. Important barriers with high scores were "Little or no integration of HR systems with other enterprise systems", "concerns with the organization structure" and "Lack of analytic skills in the workforce". "Multiple HR databases with little to no integration" and "Lack of HR Alignment with business strategy" are also important barriers with mean scores of 3.80 and 3.61 by 218 HR Practitioners. The T Test revealed that there is no significant difference between the perception of the executives and the managers in the barriers in implementing HR Analytics.

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