USE OF ANALYTICS IN IMPROVING HR PERFORMANCE: EVIDENCE FROM PUNE, INDIA

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Abstract:

Past two decades have seen a huge drift in the way organizations work. With result-oriented approach, organizations have started realizing the importance of numbers in operational areas and its contribution in Decision making process. Analytics is no exception to this, and the use of Analytics in the field of Human Resources has gained weightage in understanding and improving the quality of workforce. Every year more and more organizations are hiring analysts and statisticians into HR roles. The goal of Human Resource Analytics is to provide an organization with insights for effectively managing employees, so that the business goals can be reached quickly and efficiently. The purpose of this study is to understand the extent up to which organizations make use of the available data in different functions of HR thereby contributing to the enhancement of enterprise performance. Research methodology used was Secondary data and primary data received from firms in service industry. Therefore, it is evident that analytics has not only changed the way decisions are made, but has also impacted the entire value chain of HR function including Recruitment, Talent Management, training and nurturing employees to retaining them.

Keywords – HR Analytics, HR Practices, HRIS

Introduction

The advancement in technology and globalization has led to generation of data in multiples. The disruption in information technology and availability of huge amount of data on primary and secondary storage devices ranging from Megabyte (MB) to Petabyte (PB) is witnessed in the recent years. All business functions have positive impact of this huge data and Human Resource function is no exception to this.

HR is undergoing rapid and profound change. This function has gained importance because of its ability to contribute to business in a tangible way. The function which was considered as a cost or a support function, went on to becoming a service provider and is now gaining recognition at a leadership level owing to realization of importance of workforce and people and the cost benefit associated with them. "The entry of data analytics into HR is one of HR's greatest opportunities to modernize the function and raise its level of value".[1] Making the

management realise the importance of their workforce is the contribution of data analytics to HR function. It is now therefore, being asked to help lead the digital transformation sweeping organizations worldwide. (Deloitte, 2017)[2]

Human Resource Analytics (HR Analytics) is an area in the field of analytics that refers to applying analytical concepts to the different processes of human resource department of an organization to generate usable data which would assist in strategic decision making. HR analytics does not just deal with gathering data on employee efficiency. Instead, it aims to provide insight into each process by gathering data and then using it to make relevant decisions about how to improve these processes.

Globally, 78 per cent companies (employing 1000 and above employees) rated HR analytics as urgent, but only 14 per cent companies felt they were equipped to handle this as compared to 81 per cent in finance, 77 per cent in operations and 58 per cent in sales and 56 percent in marketing (Deloitte, 2014)[3]

In the last three years the progress has still been slow. As per a global survey conducted by Deloitte, only 71% companies see HR analytics as a high priority in their organizations. Individuals adapt relatively faster to technological changes, but organizations take seemingly longer time to adapt to and implement them into the daily functioning. Where most of the organizations have now implemented Human Resource Information Systems, the true potential and usage of the data generated is still untouched. Lot of predictive analysis is possible only with the knowledge of how the data can be used.

Organizations are investing a lot in tools and information systems to manage all HR activities such as hiring, developing, compensating, etc. to enhance its capabilities and effectiveness. The most crucial thing is to better utilize data resources and information systems. For this the HR department needs to have right people to provide right insights having good analytical skills and good domain knowledge. Thus, every year more and more organizations are hiring analysts and statisticians into HR roles.[4] (HR Analytics for saving the value of Talent; Whitepaper;2016; pgs -8)

Literature Review

With the wave of digitalization, many functions in an organization changed their working methods. The usage of different tools, platforms has enabled capturing of information. But that data requires understanding, collaborating and effectively using it to create substantial decisiveness out of it. (Mohammad, 2019)[1] remarked that the possibilities of HRM offered by analytics have been realized by employers and organizations, but there remains immense room for growth in the area to study relevance of analytics within the categories that fall under Human Resource Management.

To understand the perspective, (Fernandez, 2020)[2] defines HR analytics as "*a set of principles and methods that address a strategic business concern that encompasses collecting, analyzing and reporting data to improve people-related decisions.*" Until recently, finance and sales departments have used data to drive decisions; recently analytics has penetrated into supply chain and marketing functions. Now finally, analytics are beginning to drive decisions about people (HBR, 2014)[3].

To capture the employees' data, organizations have numerous platforms and the data is used to analyze trends and understand the basic metrics. (Sindhar, 2018)[4] suggested that reporting as a way of control mechanism is necessary but not sufficient for HR and managers to make better choices. Linking the relevant information to business outcomes is difficult. Josh Bersin, founder of Berson by Deloitte, founder of HR research and advisory service experienced that every organization wants to build a talent analytics capability, but have not built the business case. Hence, converting the information relevant to business metrics is of prime importance. (Fernandez, 2020) categorizes the barriers to adopting HR analytics into 4 categories namely

1. Data and models: Integration of internal and external data enables collective intelligence and debate across the enterprise. But unfortunately, only 28% respondents have reporting systems and tools that connect.
2. Software and technology: HR Professionals lack the skills to understand and perform predictive and prescriptive analytics. The software is designed for and targeted towards people with analytical skills, rather than HR professionals.
3. People: Lack of analytical acumen or skills is one of the biggest obstacles to achieve better use of data, metrics and analytics.
4. Management: HR analytics should be driven by Management, collaborative approach by HR and Finance departments is lacking.

The primary mode of collection of data for all companies is through the HRIS (Human Resource Information System). The people working on such systems need to understand and explore the usage of data. Their visibility is restricted to data maintenance and updating. But they need to be made aware of applicability of this data. This will reduce the manual errors and redundant nature of the work.

Also (Keerthi, Reddy, 2018)[5] in their research emphasized the fact that data integrity, data privacy and getting the right data were the topmost concerns for adoption of HR analytics. These areas of concern are hampering the initiatives, hence adopting security proof software is unavoidable. Tools like Excel are subjective to loss of information and manual errors.

Evolution and advancement of Big Data Analytics has evolved the HR practice and the decision-making process, eventually leading to better results in all HR functions like resource management, recruitment, talent management and training and development. Most of the organizations are using basic analytical tool available which is Excel. It provides standard metrics for descriptive analytics. In their research (Qadir&John, 2019)[6] revealed that companies initially depended on KPIs and dashboards as a tool of data analytics. With the emergence of different HRM modules like HCM (Human Capital Management by SAP), they moved a stage ahead in data analytics. Some companies are outsourcing the job to consultants like Nielsen to perform advance analytics. As per the recent research by (Daash, 2020)[7], most commonly used tools for HR analytics in current times are SAP, Power BI, Python, R, Tableau and SPSS.

The most common pattern observed in all organizations while indulging into analytics is the responsibility of leading the initiative. People in HR and Finance departments working in silos need to get involved into other's roles and collaborate to lead the initiative for HR analytics. (Bassi, 2011)[8] suggested that HR analytics team should emerge from HR to ensure HR having

strategic aspiration within the organization and keeping the people side of the business intact. According to (Levenson, 2005)[9], the people skilled in establishing causal analysis for HR analytics are usually not a part of HR. They are either in analytical roles in other functions of an organization or are in academics or consulting organizations. The solution to this is only through upskilling the HR people with an analytical mindset.

As important the technical and skill part of this entire gamut is, equally important is the drive behind adopting HR analytics. The Management plays an essentially important role in driving the practice. In an article by (Mondore, Douthitt, Carson, 2011)[10] they emphasize on importance of HR analytics on buying the HR a place on the table and exhibit the roadmap to becoming the Business Partners.

EXHIBIT 1: THE BUSINESS PARTNER ROADMAP™

1. Determine Critical Outcomes
2. Create Cross-Functional Data Team
3. Assess Outcome Measures
4. Analyze Data
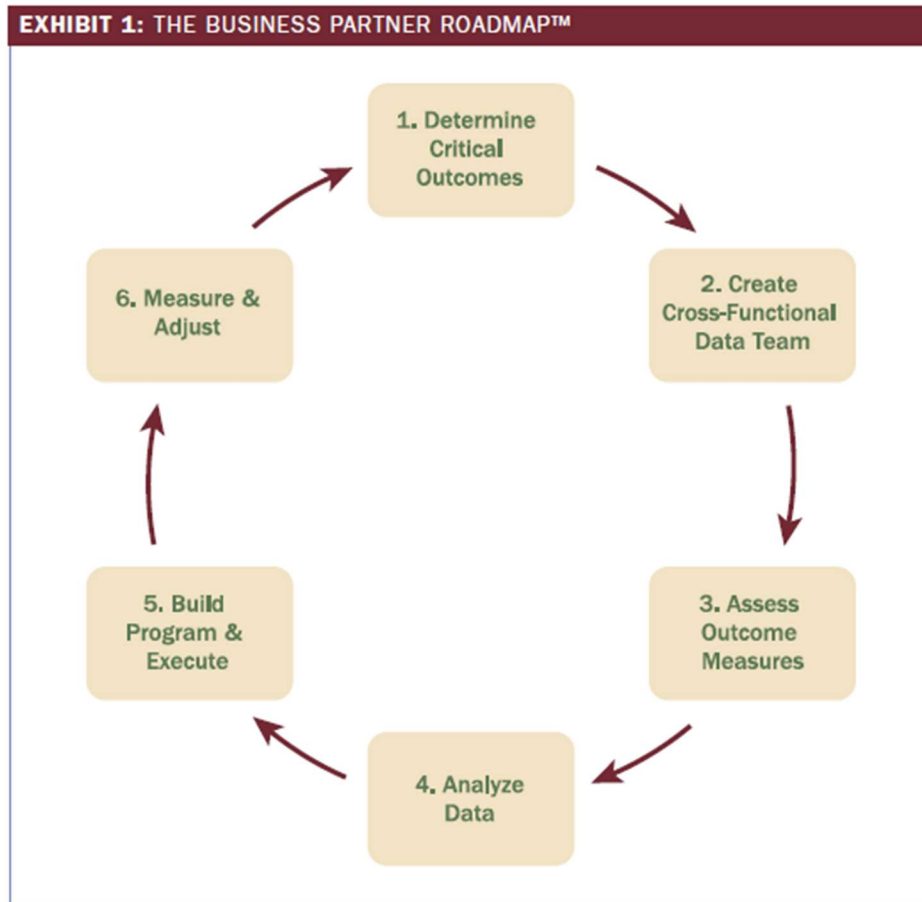5. Build Program & Execute
6. Measure & Adjust

Image Source: People & Strategy

All the literature on HR Analytics focuses on 4 main aspects of the organization:
1. Objective of the management in driving the HR analytics function
2. Readiness of the organization to invest in the resources and technology
3. Readiness of the people in terms of upgrading their skills or hiring new skills
4. Building a business case to align with the goals of the organization

Research Objectives
1. To study the impact of HR Analytics on recruitment effectiveness.

2. To study if HR Analytics helps in reducing attrition and retaining quality workforce.
3. To examine use of HR Analytics in identifying skill gaps.
4. To study if use of HR Analytics contributes in enhancing organization's performance

Research Design

This was an exploratory study which was aimed at understanding the extent of use of HR Analytics in the industries in Pune. A structured questionnaire was sent industry professionals using convenience sampling. The questions involved whether HR Analytics was used in the organization and if so which tool/s were used. Other questions focused on eliciting information about the area of application of HR Analytics and its perceived effectiveness in achieving the organization's goals. Total 96 responses were received to the questionnaire from various industries. Microsoft Excel was used for data analysis which involved descriptive statistics of demographic characteristics of the respondents and their responses to the aspects of the extent and effectiveness of the use of HR Analytics in their respective organizations.

Data Analysis and Discussion of Results

The demographic analysis of the responses is presented below. Table 1 shows the industry wise distribution of the respondents.

Table 1. Industry wise distribution of respondents

Industry sector	Count
Agro based industry	1
Banking and Finance	9
BPO	1
Consumer Durables	1
Cybersecurity Consulting	1
Designing	1
Education	6
Engineering Services	4
FMCD	1
FMCG	2
Healthcare	5
In Every Industry	1
IT services and products	29
Logistics, Supply Chain, Transport	8
Management consulting	1
Manufacturing	16
Mindset & NLP Training	1
Mining	1
Real Estate	6
Retail	1
Total	**96**

It may be observed that majority of the responses came from IT Services, Manufacturing, and Banking sector. Table 2 shows company size wise distribution of the responses.

Table 2. Company size of the respondents

Company size (Employees)	Count
100 to 500	17
50 to 100	9
500 to 1000	6
Less than 50	25
More than 1000	39
Total	**96**

It was seen that majority of the responses came from large organizations. It was also observed that the average experience level of the respondents was 9.5 years.

Use of HR Analytics

It was observed that 52 out of 96 respondents stated that HR Analytics was used in their organizational decision-making process, which amounts to 54%. Table 3 and 4 show the demographic characteristics of the organizations that were using HR Analytics in their operations.

Table 3. Industry sectors using HR Analytics

Industry sector	Count
Banking and Finance	4
BPO	1
Cybersecurity Consulting	1
Designing	1
Education	4
Engineering Services	3
FMCG	1
Healthcare	2
In Every Industry	1
IT services and products	16
Logistics, Supply Chain, Transport	4
Manufacturing	10
Real Estate	4
Total	**52**

Table 4. Companies using HR Analytics

Company size (Employees)	Count
100 to 500	11
50 to 100	4
500 to 1000	5
Less than 50	12
More than 1000	20
Total	**52**

It may be observed that the industry sector and size demonstrate similar pattern of use of HR Analytics as that in the total responses. Thus, IT Services and Manufacturing industries are main users of HR Analytics, whereas companies of all sizes seem to be using HR Analytics in their decision making.

The tools used by the companies for HR Analytics are presented in Table 5 below.

Table 5. HR Analytics Tools used by Organizations.

HR Analytics Tool used	Count
Self Developed Legacy tools	2
Microsoft Power BI	12
Microsoft Excel	37
Tableau	10
Oracle HR Analytics	5
SAS Business Analytics	3
Python	1
Qlin	1
Kredily	1
Total	**72**

It was observed that Microsoft Excel seems to be the most popular platform for HR Analytics work, followed by Power BI and Tableau. This result also indicates further scope for investigation into the preference of certain tools in HR Analytics.

Extent of use of HR Analytics in various area of HR

The extent and effectiveness of use of HR Analytics was examined in five areas, namely, recruitment, performance management, employee retention, training & development, and compensation management.

The results of use of HR Analytics in different area are presented below.

Table 6. Companies using HR Analytics for Recruitment

Recruitment	Count
Frequently used	12
Highly used	12

Somewhat used	12
Rarely used	12
Not at all used	4
Total	**52**

It may be seen in Table 6 that almost 69% of the companies are making use of HR Analytics in their recruitment process.

Table 7. Companies using HR Analytics for Performance Management

Performance Management	Count
Frequently used	16
Highly used	12
Somewhat used	13
Rarely used	8
Not at all used	3
Total	**52**

It was observed from Table 7 that 79% of the 52 companies were using HR Analytics in their Performance Management process.

Table 8. Companies using HR Analytics for Compensation Management

Compensation Management	Count
Frequently used	14
Highly used	14
Somewhat used	11
Rarely used	7
Not at all used	6
Total	**52**

From Table 8 it was seen that 75% of the 52 organizations were using HR Analytics for Compensation Management.

Table 9. Companies using HR Analytics for Employee Retention

Employee Retention	Count
Frequently used	8
Highly used	6
Somewhat used	21
Rarely used	12
Not at all used	5
Total	**52**

It was seen from Table 9 that 67% of the organizations used HR Analytics in managing employee retention in varying levels.

Table 10. Companies using HR Analytics for Training & Development

Training & Development	Count
Frequently used	11
Highly used	10
Somewhat used	19
Rarely used	8
Not at all used	4
Total	**52**

Results shown in Table 10 indicated that HR Analytics was used by 77% out of 52 organizations for managing their Training and Development activities.

Thus, it may be seen that HR Analytics is extensively used in the major areas of HR, namely, recruitment, performance management, compensation management, training & development, and employee retention.

Effectiveness of use of HR Analytics in decision making

The effectiveness of use of HR Analytics was examined in the following three areas:

a) Effectiveness of recruitment process in getting the right candidates for the organization.
b) Improving employee retention
c) Identifying and managing skill gaps for taking necessary corrective action

Following specific questions were asked to the respondents in each of the above areas and the respondents were asked to rate the effectiveness of HR Analytics in these areas on 1 to 5 Likert scale (1 being least effective and 5 being most effective):

1. Measuring effectiveness of recruitment process
a. Analysing the data has helped in identifying and rectifying errors in recruitment process.
b. Analytics has improved quality of incoming workforce.
c. Analytics has helped in reducing the cycle time for recruiting a candidate.
2. Measures of effectiveness of employee retention
a. Analytics has helped us to improve manpower planning by looking at the attrition rates.
b. We use HR analytics for salary fitment of each position.
c. We use analytics to benchmark benefits offered to employees in sync with market trends.
d. We use analytics to identify the trends in resignations after salary rise.
e. Analytics has helped us identifying and retaining top performers in the organization.
f. Analysing reasons for resignation data has helped us redefine processes.
3. Measures of effectiveness in identifying and managing skills gaps.
a. Analytics has helped us in identifying the niche skills compensation.
b. Analytics has helped us in identifying skill gaps in the employees.
c. Analytics has helped us to monitor the progress of employees after the training.

The results of the analysis are presented below.

Table 11. Effectiveness of HR Analytics in improving the Recruitment process.

Effectiveness in Recruitment	Average Score
Analysing the data has helped in identifying and rectifying errors in recruitment process.	4.24
Analytics has improved quality of incoming workforce	4.05
Analytics has helped in reducing the cycle time for recruiting a candidate	4.07
Overall effectiveness	**4.12**

It may be seen that perceived effectiveness of HR Analytics in improving the quality of recruitment process is quite high (4.12/5). This indicates great potential for adoption of HR Analytics in the recruitment process in future.

Table 12. Effectiveness of HR Analytics in Employee Retention.

Effectiveness in retention	Average Score
Analytics has helped us to improve manpower planning by looking at the attrition rates	4.17
We use HR analytics for salary fitment of each position.	3.98
We use analytics to benchmark benefits offered to employees in sync with market trends	4.02
We use analytics to identify the trends in resignations after salary rise.	3.76
Analytics has helped us identifying and retaining top performers in the organization.	3.71
Analysing reasons for resignation data has helped us redefine processes.	3.79
Overall Average	**3.90**

As seen in Table 12, the respondents perceived a high level of effectiveness (3.90/5) of HR Analytics in controlling attrition and managing employee retention through various means.

Table 13. Effectiveness of HR Analytics in Identifying and Managing Skill Gaps.

Effectiveness in identifying skills	Average Score
Analytics has helped us in identifying the niche skills compensation.	4.05
Analytics has helped us in identifying skill gaps in the employees.	4.05
Analytics has helped us to monitor the progress of employees after the training.	4.19
Overall Average	**4.10**

Table 13 shows that respondents perceive a high level of effectiveness (4.10/5) of HR Analytics in identifying skill gaps in employees and taking necessary corrective actions for the same.

The respondents were also asked the reasons, if any, for not using HR Analytics in their organizations. Multiple reasons were reported by several respondents for not using HR Analytics. The results are presented in Table 14 below.

Table 14. Reasons for not using HR Analytics.

Reasons for not using HRA	Count	%
Lack of awareness of HR Analytics	44	42.7%
Lack of expertise	26	25.2%
Need was not felt	21	20.4%
Not able to afford the cost	12	11.7%
Total	**103**	**100.0%**

It may be observed that lack of awareness and expertise of HR Analytics are the major causes (68% of total) for not using such a powerful tool in improving the effectiveness of HR processes. This also suggests that there is great potential for professionals with HR Analytics skills in bridging this skills gap perceived in the industry.

Conclusion and further scope of work

The study suggests that while HR Analytics is perceived as a highly effective tool in improving the HR processes, particularly recruitment, employee retention, and managing skill gaps of employees. However, only 52% of the organizations in the study sample were seen to be using HR Analytics. The lack or awareness and expertise are the main reasons for the industries losing such an opportunity for improving their performance. Further research could focus on finding the reasons for the lack of awareness and expertise and suggest possible remedial action to

overcome this problem.

Since this study is conducted in Pune and with select service organisations there is ascope for carrying out further research for a broader region and larger number of industries, to develop deeper insights in this area.

There is no doubt that HR analytics is the way to move ahead in future and the earlier the organisations understand that the better it is for them to lend long term competitive advantage to the organisations that are early it its adoption.

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