

Workforce Analytics the Prospect of HRM: A Study of BPO Sector

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ABSTRACT: *This study aims to examine human resource development using analytics how it has transformed the delivery of HR services and the role of HR in BPO sector. In spite of the complexity of HR and the different roles HR plays, there has been limited research which helps inform the selection, application and use of HR metrics and analytics to the operational, managerial, and strategic levels that HR occupies. On this basis, the goal of this article is to provide a framework that describes the data needs, decision characteristics, and HR metrics to these different levels of HR activities and decision-making. The research provides a number of research propositions and implications of the employee's data. The paper concludes with a discussion of the implications that this framework on how HR decisions are made, the types of data used in support of these decisions, and the metrics used to make better decisions for future operations of firms.*

KEYWORDS; *Human resource analytics, Business intelligence, Decision making, BPO sector and HR skills*

Date of Submission: 07-05-2018

Date of acceptance: 21-05-2018

I INTRODUCTION

Human Resources (HR) analytics refers to the integration of relevant HR data from different sources, the performing of organizational and workforce analysis on this captured data, and ultimately the gleaning of insights from the findings to shape decisions for better organization management. Data, its storing, processing and utilization have played a central role throughout HRM's gradual evolution from the basic administrative duties to more recently support the data driven decision making, and associated with it strategic role of HR in the contemporary management of the organizations. However, throughout past decades both academics and practitioners have been concerned and often sceptical about the speed and ultimate success of HR in this evolution. By incorporating analytics in the design of human resource processes organizations can maintain HR functions aligned with organizational goals and strategies. Analytics can be used to its greatest advantage; HR analytics can prove to be a major differentiator for businesses, one that can transform HR into a strategic business partner. With the help of predictive and prescriptive analytics applied to HR data, analysts are able to predict issues and opportunities concerning HR functions, helping organizations proactively make optimal decision making.

Human resource expert and writer, for instance Jac Fitz-Enz, explains that HR need to learn how to speak in qualitative, objective terms, using number to express the activity and value added brought HR function. Jac Fitz also considers that managers find themselves in the most exciting and promising phase of the evolution of human resources management (Fitz-Enz J., 2010). This evolution changes the role of the HR function and positions it as a value added partner that contributes to the strategic goals of its organization. Currently human resources department has to answer many more questions than it did twenty years ago: Is it cost-effectiveness in adding staff in a given area? Does a training program have a positive impact on costs and sales? How can you increase employee satisfaction?

At a time when human resources managers are under great pressure to accurately measure job performance and guard their budgets against outsourcing, answering questions like these is often a difficult task, yet necessary due to the new role of HR, that of strategic partner for the business. One of the studies in particular (Bersin, et al., 2013) has shown that matured analytics organizations are more likely to improve their recruiting efforts, improve their leadership pipelines, to realise cost reduction/ efficiency gains, and to improve talent mobility. HR analytics can certainly enhance the credibility of the function and the profession by improving the effectiveness of HR contributions to policies and practices of competitive advantage to the organizations that will develop it as a core competency. (Bassi, 2011).

In recent years, HR has witnessed the changes in every aspect of our lives and businesses have been affected by digitalisation of the operations in the organizations. The technologic development is constantly accelerating along with the exponential increase of the amount of data, the growing effectiveness of its storing,

and the speed of processing. Software's are quickly shifting into the cloud while mobile and social media platforms have become a significant part of our everyday lives. These trends are reshaping administration and management of the organization and provide them with unprecedented potential in HR analytics and forecasting, this one area where such developments have been historically important and are likely to continue steer the management of human resources (HRM).

II LITERATURE REVIEW

Workforce is a vital organ for every organization in any organization. It should not be treated as a mere part in the wheels of an organization; however it is the part that keeps the organization fully functional. Human capital is just not the people working in the organization, but is also a combination of their skills, cultural diversity, knowledge, experience, motivation to excel; this greatly affects the productivity of the organizations. In today's age of competition and growth, it's become crucial to view employees as assets rather than "costs" to the organization. In order for HR to be aligned with the organization's strategies, it needs to identify what is changing within the business. This therefore means that human resource practitioners need to understand the fundamentals of the business, including the following: What steers revenues? Who are the major customers? What is our market share? How do our gross margins compare? Are earnings per share rising or falling?

To answer these questions HR managers need to link HR activities to organization's objectives and, ultimately, to the business's goals. In addition, HR manager need to measure its activity's impact in order to obtain the much needed support for the top management decisions from how much HR staff is needed and how much to spend on HR services in relation with hard numbers obtained from easy-to-apply formulas and benchmark database examples (Fitz-Enz J., 2000).

Despite of the big promise of HR analytics, its real value and advantage continues to be a question mark, and relatively little published research exists about this issues. A recent Deloitte report stated that a third of the companies' state that HR analytics is under active development, but only eight per cent of them claim to have strong analytics capabilities (Deloitte, 2015). In addition, they show little sign of improvement compared to the previous year, indicating thereby that the expectation of HR analytics may not have yet evolved into reality in the organizations.

It is clear that HR analytics in a relatively short period of time has risen to prominence in the some of the organizations how have had it experience. What may explain the widespread appeal of these new ideas? As Kieser (1997, p. 61) points out, timing plays a key role in the popularization and rise of management concepts, as new concepts have to hit the "nerve of today's managers." Concepts that fit well with the current organizations will stand a greater chance of becoming elegant. In this regard, HR analytics benefits from the strong position of the evidence based movement in the social sciences (Rousseau, 2012; Young, Ashby, Boaz, & Grayson, 2002) and the historical and ongoing quest within the field of HR to play a more important and strategic role within the organization (Guest & King, 2004; Kaufman, 2014).

Therefore, an important question pertains to whether HR analytics can be considered a management fashion. If the definition by Jung and Kieser (2012, p. 329), HR fits the definition of a management fashion since it is a concept that quickly has gained large shares of public management discourse, particularly in the HR sphere. The analysis of the supply-side of HRA has shown that a wide spectrum of actors have been involved in the popularization and rise of HR analytics. In particular, consulting and technology firms have spearheaded these efforts. There is also much discourse about HR analytics on the conference scene and in management books. Similar to what has been seen in the case of Big data (Madsen & Stenheim, 2016), much of the discourse around HR analytics is taking place on social media platforms. This is an indication that social media play an important role in the diffusion of contemporary management fashions in the organizations (Madsen & Slåtten, 2015).

III OBJECTIVE OF THE STUDY

1. To enumerate the benefits an organization derives by implementing HR analytics in recruitment decisions for BPO sector.
2. To assess the benefits an organization realize when using analytics in HR -recruitment decisions for BPO sector.

IV RESEARCH METHODOLOGY

A survey was conducted to gather information concerning organisational usage of HR analytics details, respondent details and the BPO skills shortages from HR professional managers' perspectives in various types of organisations. Questionnaires were distributed to HR managers in BPO sector who are utilizing HR analytics in there recruitment decision making. The HR managers were selected randomly from broad cross section of organisations in Bangalore city. The survey questionnaire consisted of three sections: i) respondent and organisational details, ii) HR analytics information, and iii) decision making and competencies. The

questionnaires were distributed and data collected from March to May 2017. A total of 110 useable responses were received and considered for analysis, analysis was done using the SPSS statistical package.

V DATA ANALYSIS

First of all the researcher investigated the essentiality of HR Analytics for making recruitment decisions at different organizations. The respondents were asked to rate different statements regarding decisions making on a scale of 1 to 5 (1=strongly agree... 5=strongly disagree). The following table presents the summary of responses.

Table No: 1.1 Use of HR Analytics for making recruitment decisions in the organizations

Components	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Percentage of agreement
Internal Data	20	66	13	6	5	78.18
Organization's Policy	19	46	29	12	4	59.09
Employee Input.	13	58	27	7	5	64.54
Previous performance metrics.	10	57	25	13	5	60.90
Management judgment.	12	45	20	29	4	51.81
External data.	11	42	30	20	7	48.18
Govt. regulations.	25	55	13	12	5	72.72

According the above table no 1.1, HR analytics is found to be essential for making decisions about internal data by 78.18% of the respondents followed by government regulations; employee input; previous performance metrics; organization’s policy; management judgments and external data. To verify whether or not the responses differ significantly from one another we carry out a Friedman’s test. Friedman’s test is an equivalent of One-way ANOVA and is employed when the data is ordinal.

Test Statistics ^a	
N	110
Chi-Square	35.087
df	6
a. Friedman Test	

Based on the summary of Friedman’s test it may be concluded that the responses were significantly different from each other.

The respondents were asked to rank how important is HR analytics to make decisions about employees recruitment. From this data, the researcher intends to find the most important scenario in which HR analytics may be employed. For this purpose the researcher used Garret ranking technique.

Garret Ranking Method: Firstly tabulate all the responses recorded from the respondents as a data matrix as below. Following table records the rankings given by 110 respondents to 6 scenarios’ and is classified according to the rank given by a respondent to the first scenario.

The first column of the table lists all the scenarios, second column contains the number of times the respective scenario has been ranked 1st. Second column contains the number of times the respective scenario has been ranked 2nd and so on.

Table No: 1.2 Garret Ranking Method

Scenario’s	1	2	3	4	5	6
Recruiting high performing talent for succession and leadership or scarce skill role in the organization.	17	60	32	1	0	0
Developing existing talent for future leadership or scarce skill role in the organization.	24	38	34	8	5	1
Retention of high performing talents.	27	34	36	10	3	0
Managing labour and skill to ensure organization continuity and operations.	15	44	37	9	4	1
Recruiting creative, innovative and problem solving staff.	15	52	25	13	5	0
Ensure that diversity exists across the workforce is in control.	12	38	38	11	7	4

Next the researcher compute percent position for each possible rank a scenario can be given using following formula.

$$Percent\ Position = \frac{100(R_i - 0.5)}{N_j}$$

Where, R_i represents the different value a scenario can be assigned with. i.e. 1,2,3,4,5 and 6. And N is the total possible ranking choices. In this case $N=6$. Following table presents the Percent positions obtained for individual ranks possible.

Rank table no: 1.3 Garret ranking choices

Ranks	Percent Position
1	8.34
2	25
3	41.67
4	58.34
5	75
6	91.67

Next step is to locate Garret values from the “Garret ranking conversion table”. Garret ranking conversion table is a table consisting of two columns. First column lists different Percent positions and second column contains Garret value. Locate a Garret value corresponding to the nearest percent position obtained previously. The following presents Garret values hence obtained.

Rank table no: 1.4 Locate value of Garret ranking

Ranks	Percent Position	Garret Value
1	8.34	77
2	25	63
3	41.67	54
4	58.34	46
5	75	37
6	91.67	23

After locating and listing Garret values next step is to multiply every value in the data matrix given above with respective Garret value as below. Then the values are summed row wise and average is taken. This average will constitute the Garret Score based on which most important scenario can be selected.

Table no: 1.5 Garret ranking score based on importance

Scenario's	1 st *77	2 nd *63	3 rd *54	4 th *46	5 th *37	6 th *23
Recruiting high performing talent for succession and leadership or scarce skill role in the organization.	17	60	32	1	0	0
Developing existing talent for future leadership or scarce skill role in the organization.	24	38	34	8	5	1
Retention of high performing talents.	27	34	36	10	3	0
Managing labour and skill to ensure organization continuity and operations.	15	44	37	9	4	1
Recruiting creative, innovative and problem solving staff.	15	52	25	13	5	0
Ensure that diversity exists across the workforce is in control.	12	38	38	11	7	4

Scenario	1 st	2 nd	3 rd	4 th	5 th	6 th	Total
Recruiting high performing talent for succession and leadership or scarce skill role in the organization.	1309	3780	1728	46	0	0	6863
Developing existing talent for future leadership or scarce skill role in the organization.	1848	2394	1836	368	185	23	6654
Retention of high performing talents.	2079	2142	1944	460	111	0	6736
Managing labour and skill to ensure organization continuity and operations.	1155	2772	1998	414	148	23	6510
Recruiting creative, innovative and problem solving staff.	1155	3276	1350	598	185	0	6564
Ensure that diversity exists across the workforce is in control.	924	2394	2052	506	259	92	6227

Scenario	Average Garret Score
Recruiting high performing talent for succession and leadership or scarce skill role in the organization.	62.39
Developing existing talent for future leadership or scarce skill role in the organization.	60.49
Retention of high performing talents.	61.23
Managing labour and skill to ensure organization continuity and operations.	59.18
Recruiting creative, innovative and problem solving staff.	59.67
Ensure that diversity exists across the workforce is in control.	56.60

Based on the above table it may be concluded that following are the scenarios in which HR analytics can be employed to make decisions of employees’ recruitment in decreasing order of preferences.

- i. Recruiting high performing talent for succession and leadership or scarce skill role in the organization.
- ii. Retention of high performing talents.
- iii. Developing existing talent for future leadership or scarce skill role in the organization.
- iv. Recruiting creative, innovative and problem solving staff.
- v. Managing labour and skill to ensure organization continuity and operations.

vi. Ensure that diversity exists across the workforce is in control.

On the same lines the researcher listed benefits an organization can acquire by using HR analytics and asked respondents to rank them from 1 to 4, 1 being most likely and 4 being least likely. Use Garret ranking method as described above.

Benefits	1 st	2 nd	3 rd	4 th
Increased Productivity of Employees.	35	62	11	2
Faster Decision Making	57	37	14	2
Finding new ways to approach HR issues	25	54	23	8
Ability to retain potential employees.	27	43	36	4

Rank	Percent Position	Garret Value
1	12.5	73
2	37.5	56
3	62.5	44
4	87.5	27

Benefits	1 st *73	2 nd *56	3 rd *44	4 th 27	Total
Increased Productivity of Employees.	2555	3472	484	54	6565
Faster Decision Making	4161	2072	616	54	6903
Finding new ways to approach HR issues	1825	3024	1012	216	6077
Ability to retain potential employees.	1971	2408	1584	108	6071

Benefits	Garret Score
Increased Productivity of Employees.	59.68182
Faster Decision Making	62.75455
Finding new ways to approach HR issues	55.24545
Ability to retain potential employees.	55.19091

Based on the Garret Score following are the benefits that an organization derives. The benefits are arranged from most beneficial to least beneficial.

- i. Increased productivity of employees.
- ii. Faster decision making.
- iii. Finding new ways to approach HR issues.
- iv. Ability to retain potential employees.

Finally, respondents were asked to rate their experience on transformation of their organization's recruitment policy due to the use of HR analytics. Following table presents the responses of all 110 respondents.

Since 89.10% of respondents have marked that overall usage of HR Analytics at their organization has increased. Hence it is concluded that because of essentials and benefits of HR Analytics in an organization its overall usage has increased over the time.

Table no: 1.6 Overall transformation organization's recruitment policy due to usage of HR Analytics.

	Frequency	Percent
Increased Significantly	31	28.2
Increased Moderately	67	60.9
Maintained	6	5.5
Decreased Moderately	5	4.5
Decreased significantly	1	.9
Total	110	100.0

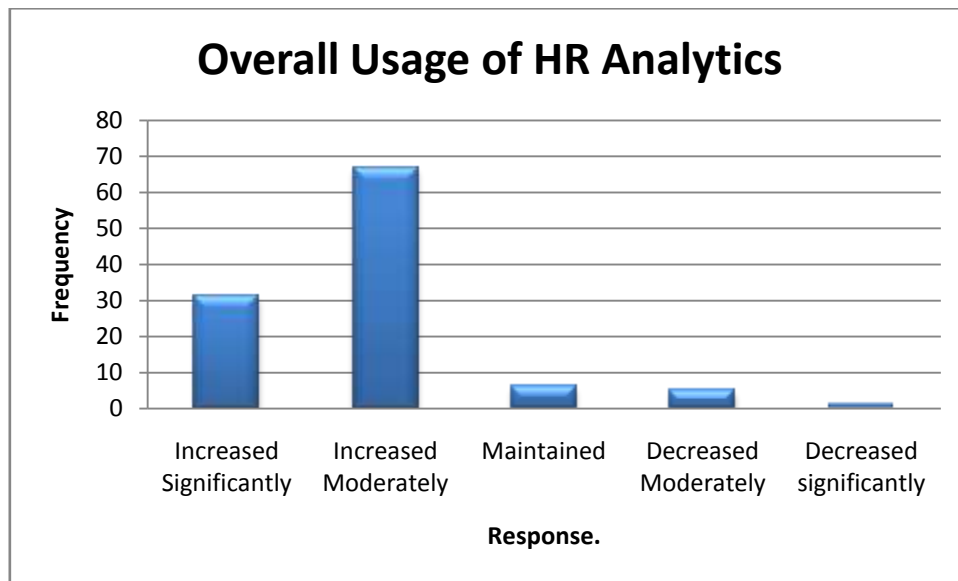


Figure no: 1.1

H₀: There is no association between recruiting creative, innovative and problem solving staff with identifying better promotions policies in the organization.

Table no: 1.7 Better promotion policies

Identifying creative/ innovative and problem solving Skills	Better Promotion Policies					Total
	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	
Strongly Agree	8	17	4	1	2	32
Agree	9	16	13	1	1	40
Neutral	5	10	9	4	0	28
Disagree	1	4	1	0	0	6
Strongly disagree	3	1	0	0	0	4
Total	26	48	27	6	3	110

Chi-Square Test For Association	
Chi-Square Statistic	19.985
Degrees of Freedom	16
p-Value	19.985 (>0.05)

The chi-Square value for testing the given Null hypothesis is 19.985 with a p-value of 0.221 (>0.05) resulting in the **acceptance of Null hypothesis**, therefore the researcher concludes that “There is no association between identifying creative/ innovative and problem solving Skills and better promotion policies”.

VI FINDINGS

Organizations collect large volumes of data on their employees, such as salary information, performance reviews, and experience of employees. As a result, most organizations face information overload of which is not utilized for effective decision making of the workforce in BPO sector. However the same data, through proper analysis and management can provide organizations the opportunity to optimize HR recruitment and other business decisions making in the organization. The availability of information, both internal and external sources of the organization that are readily usable in digital format has spurred the application of HR analytics. This data needs to be analyzed in a systematic way in order to glean meaningful insights from it and make effective recruitment decisions in BPO organizations.

To take advantage of HR analytics, organization need the integration of data, analyses processes throughout the organization.

- 1) HR Analytics improves quality of HR related decisions of recruitment since it uses 78.18 percentage uses of internal data to make their recruitment decisions.

- 2) HR Analytics improves the organization's speed of decision making and competitiveness.
- 3) Though the utilization of HR Analytics the BPO organizations in Bangalore city identify better working conditions to their employees this has minimized the attrition rate in the sector.
- 4) The performance of the employees improves since employees are involved in making the decisions affecting their welfare and working conditions.
HR analytics is an important tool in aligning resources with strategies while utilizing the employee's data in workforce planning.

VII DISCUSSIONS

The top rung of HR analytics hierarchy is the domain of data optimization, where processes adjust on the fly to enable organization to maintain the best possible mix of skills and supply of talent in the workforce of the organization. HR analytics needs to be rooted in intensive understanding of data and the context in which it is collected if it is to generate meaningful insight in HR recruitment decision making.

HR analytics data driven decision making that follows a careful empirical analysis using advanced statistical and econometric techniques that move beyond the analysis of correlation between variables to use experiments and quasi-experiments to identify how human capital inputs and decisions affect the performance of the organization. HR analytics therefore is used in making important recruitment decisions in connection to different groups of employees who are required in the organization for different tasks; hence HR analytics acts a strategic component for recruitment decision making process to recruit the best candidate out of the pull of the applications available in the labour market.

Managerial Implications

Modern Organizations faces several challenges of workforce and it is complications mostly bring opportunities along with it therefore HR managers in the organization need to capitalize on this situation to make the best of the opportunity. The primary goal of HR analytics is to help organizations face many of the challenges effectively and seize opportunities that exist in the job market with some level of certainty. Another challenge organizations are facing today is that the business environment is constantly evolving into a more complex system, therefore decision making in organizations has become increasingly intricate and convoluted especial the one of manpower planning. HR analytics is of help in making informed employee's decisions based on knowledge extracted from the employee's data and options at hand. Organizations that have successfully implemented HR analytics are able to make decisions quickly and with more accuracy.

VIII CONCLUSION

HR analytics help the organization to design a strategic workforce planning by developing HR matrix for analyze major aspects of employee recruitment decision making. Proper management and analysis of the employee data, can provide organizations the opportunity to optimize HR recruitment and other organization decisions making in the organization the availability of the information, both internal and external sources of the organization that are readily usable in digital format has spurred the application of HR analytical this data needs to be analyzed in a systematic way in order to glean meaningful insights from it. HR analytics it has the ability to improve the organization's quick decision making and competitiveness.

Scope for future Research

During the course of the present study, the researcher identified certain areas where further research studies could be conducted in the Indian context some of which are enlisted below;

Future studies may want to focus on analyzing only specific industries. Alternatively, they may want to compare different industries with the purpose of investigating whether any differences exist in regards usage of HR analytics in recruitment decision making in this organizations.

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