



"HR Analytics and Organizational Efficiency: A Case Study of Indian Banking & Insurance Sector"

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HR analytics is taking part in major role in today's business dynamic environment with augmented business necessities towards organization efficiency. HR analytics can be considered more credible as it provides statistically valid data and evidence that can be used to develop new strategies and implement existing HR strategies and other dimensions. HR Analytics aims to be the next solution to various HR challenges. HR Analytics plays an important role in aligning HR strategy with overall corporate strategy. Employers and organizations have recognized the opportunities that HR Analytics offers, but there is still plenty of room for growth. HR analytics helps HR managers make data-driven decisions on hiring, retention, training, rewards, career planning, and organizational effectiveness and efficiency. This paper reports the outcome of a comprehensive overview of HR analytics based on secondary data collected from previous research. This helps to understand the concept of HR analytics and also helps to understand the benefits and challenges of implementing HR analytics as a tool in organizations. This document is intended to provide guidance to both academics and practitioners on the concept and operation of people analytics. This paper concludes that the implementation and use of HR analytics in organizations is challenging as HR professionals may not have the skills and knowledge required to use HR analytics tools or may face data quality issues to have; Governance issues arise, but taking a broader view, the ability to use HR analytics will ease the challenges and lead to significant business growth.

Keywords: HR Analytics, Competitiveness, Effectiveness of organization, Strategic HRM, HRIS

INTRODUCTION

The field of human resources management has changed dramatically over time and is developing rapidly every day. While HR professionals still focus primarily on the “human” side of business

operations, they are also increasingly dependent on technology and data. The advent of this data (and its impact on the HR process) has spawned new terms and new disciplines. It's human resources analytics. Strategic use of analytics can change the way people work, give teams insights, and enable them to proactively and meaningfully contribute to the company's bottom line.

HR Analytics is a practical tool for companies to understand where their strengths and weaknesses lie. Given that the workforce is the main driving force behind an organization, understanding the contribution of that workforce using quantifiable metrics will help the organization to understand what should they do or what shouldn't. In addition, the organizations can use this data to advance the organization's agenda and develop strategies for greater success. HR analytics shows the direct impact of HR data on key business results. The HR function can implement a practical methodology to help managers make the right investments, based on effective analytics and hands-on initiatives through HR analytics. In this regard, advanced statistical knowledge is required to determine the types of analytics needed to determine specific business outcome drivers that are applicable in various settings.

HR analytics plays an important role in aligning HR strategy with overall business strategy. HR Analytics supports HR executives in formulating strategies that allow the company to gain an advantage over its competitors. HR Analytics is supposed to be the next solution to various HR challenges. Automating many aspects of HR, such as hiring, compensation, and performance metrics has allowed HR departments to focus on more complex aspects of HR, such as extraction of information on competitive human resources. HR analytics is the process of collecting, processing, transforming, and managing HR-related data, which is then, analyzed using analytical models and tools (Kapoor & Sherif (2012)). The analytical process focuses on aligning HR with the strategic business plan (Naula, 2015). Similarly, the process uses HR data to link HR practices and policies to business outcomes and ultimately together to better understand the relationships between HRM and concepts such as commitment, satisfaction, productivity, and performance among employees. These describe, predict, and specify process levels each have their own advantages and merits, but the more an organization moves from description to description, the more value is added to the company and overall performance. large (Reddy & Lamikeerti, 2017).

Evolution of HR Analytics

In the early days of British rule over India, the work of the Human Resources Department is based on the principles of domination and subordination and was not a profession at the time. However, with the advent of modern industrial workers, democratic ideologies, the concept of a welfare state,

etc., the role of HR has found its place in the economy as a profession. In the early 1950s, companies were unaware of the impact of human resource decisions on business strategy and globalization, but HRM was considered part of corporate governance.

HRM has its roots in data long before it was recognized by the organizations as HR Analytics. Actual HR measurements started with the challenge of finding the right people in the organization. This is also reflected in World War II when the US military faced a serious shortage of skilled workers. The US Army has developed a skill test and used this data to select the right people. Research in the field of HR analysis quickly grew to find large-scale applications in organizations.

In 1978, an article titled 'The measurement imperative' proposed the concept of measuring the effect of HR activities with collected data on the bottom line of the business. The proposed activities are personnel retention, staffing, compensation, competency development, etc. This concept marks the start of the data capturing activity in HRM and its application in organizations.

In 1990, as development progressed in the area of integration of HR measurements with more business dimensions, forecasting and evaluation models became the subject of research. However, many companies were unfamiliar with HR analysis and could not realize that potential.

In 2000, the emergence of HR accounting and profit analysis has been observed, which adds new dimensions and metrics for quantifying HR. Researchers have drawn conclusions not only from companies but also from other sources. One such study includes a metric model used by Billy Beane, general manager of the US baseball team, to select team members.

LITERATURE REVIEW

Tomar and Gaur (2020) have studied the opportunities and challenges of using HR analytics in business and analysed that proper use of HR analytics in the right business at the right time can significantly grow a company's HR analytic and accelerate its growth.

Zaiden and Itani(2020) reviewed HR analytics and organizational effectiveness by collecting secondary data. The study concluded that despite the rising popularity and interest in HRA, HR professionals still have a long way to go before they reach analytics maturity and the studies shows that HR is pivoting towards a more strategic function and playing a more curtail role in the organization's decision making

Lochab & Kumar (2019) studied the winding path of HR analytics and found that analytics has a significant positive impact on the functionality of every organization. It is found that the adoption

of HR Analytics has helped the organizations in decision making as well as improving the performance of the organization. Companies with the highest levels of talent analytics, including the adoption of HR analytics, have 8% higher revenue growth, 24% higher net operating profit growth, and 58% higher revenue per employee.

Reddy and Lakshmikeerthi (2017) investigated the effectiveness of HR analytics as an HRM tool based on evidence. The study identified several factors that influence human capital analytic. These are the competitive mechanism, the institutional mechanism, the composition, the organizational structure, the working capital ratio, the soundness of the financials, the direction of innovation, and the size of the organization. The study also identified barriers to the implementation of HR analytic. These include inconsistencies in data, data quality, lack of common methods for analysing HR data, management approval, skills in analytical knowledge, and inaccurate timing.

George L., &Kamalanabhan T. J. (2016) studied the Acceptance of HR Analytics in Organisations and found that employees of the organization believe this is important to the organization. It turns out that analytical skills are seen as an important factor influencing the size of a company. HR Analytic has not been widely used in small organizations. We know that if the technology used for analytical purposes is simple and simple, the organisation may accept it.

Dr. P. Raghunadha Reddy, P. Lakshmi Keerthi (2017), in their research paper entitled “HR Analytics’ - An Effective Evidence Based HRM Tool” they found that Human resource are prime value to an organization a need to be focused more. According to them evidence- based approach is the best way for an organization to make decisions, and HR Analytics not only helps with that but also provokes organizations to maintain quality data to justify ROI in HR investments.

Anshu Sharma, Tanuja Sharma, (2017), in their research paper entitled “HR analytics and performance appraisal system: A conceptual framework for employee performance improvement” they found that the role of HR analytics on PA system and its impact on employee’s willingness to improve performance by proposing a conceptual model. Here the HR analytics was used as a solution by which they increased the accuracy in the appraisal process with the use of professional data analysis tools. Along with other assumptions for researchers in the field of performance management, this paper also suggested different directions for future research to further improve this field.

R. Anita. Dr. N. Sumathi (2019), in their research paper entitled “A study on the measuring the factors of HR analytics on performances management in services sector of selected companies in Chennai” they found how performance management system influences employee performance. And how could the different stages in performance management system change employee performance

respectively. The first objective is to review performance management system and employee performance, also the relationship between them. The second objective is to analyse performance management system and their connection to employee performance based on the WERS 2004 dataset. The last objective is to find out the nature of the relationship between performance management system and employee performance and to develop a set of recommendations.

Udhay Kailash and M Prathyusha (2020) in their research paper entitled “HR Analytics Methodical Measurement of HR Processes” they found that HR Analytics is more important as it assess how employees contribute to the organization, predicts workforce requirements, and links workforce utilization to strategic goals to improve the performance of the business. In his case the model of HR Analytics is widely accepted in the Pharma industry and can be replicated in other organizations of the same industry as well.

H.H.D.P.J. Opatha (2020), in their research paper entitled “HR Analytics: A Literature Review and New Conceptual Model” they found that HR analytics provides a data-driven framework for solving workforce problems through analysing data with a combination of software and methods that applies statistical models and provides new insights for smarter decision making that allow manager to optimize human resource management.

Research Objectives

1. To present a comprehensive overview of HR analytics.
2. To understand the challenges in the implementation of HR analytics in Banking & Insurance Sector.
3. To understand reasons of employee turnover and retention
4. To understand employee behaviour in the organization

Research Question

1. How HR analytics works?
2. What and how are organizational outcomes influenced by HR analytics, specifically increasing organizational effectiveness?
3. What are the challenges of implementing and using human resource analytics?

Research Methodology

This study is conceptual and descriptive in nature. The purpose of this paper is to report the findings of comprehensive overviews of HR analytics based on secondary data collected from various journals, research papers, and websites which helps to understand the concept of HR analytics, its impact on organizational effectiveness and also helps to understand the challenges in implementing HR analytics as a tool in organizations.

Hypothesis of the Study

H1: There is a significant difference between demographic profile of the company with respect to HRA and organizational performance

H2: The integration of HR analytics with Human capital management has effect on organizational performance.

Data Collection

One of the first steps in HR analytics is collecting the necessary data. This data includes employee profiles, performance, high performers and high performers data, employee demographics, salaries, promotions, training, attendance, engagement, retention, and turnover.

This data is collected and analyzed by organization's HR units to assess the effectiveness of critical HR practices such as talent management, recruitment, and training.

Typically, the data required to conduct workforce analysis comes from existing human resources systems. In addition, data can be derived from new data collection methods such as cloud-based systems. The data must be easy to obtain and fit into a reporting system.

The data collected also needs to be organized and sorted. In this way, companies can easily refer to the information provided for future purposes.

Measurement of Data

In this phase, companies will continuously evaluate and compare the data collected which is known as HR metrics. In order for this step to go smoothly, some traceable information must be in place. A continuous flow of data is required so that HR can compare current data and evaluate changes. In order to follow the development of your data, you also need to have a comparison baseline. The three key metrics used by organizations to measure data are organizational performance, operations, and process optimization. Some common examples of HR metrics are:

- Attrition Rate – The rate at which employees leave their jobs after a given year of service with an organization.
- Absenteeism – Average days off and frequency of employee absenteeism.
- Recruitment costs: the total cost of recruiting and hiring candidates.

These metrics are collected over time and then compared to an acceptable rate established by the organization to evaluate its performance.

Table: Distribution of respondents: bank wise

Bank	Frequency	Percent
State Bank of India	94	23.57
Punjab National Bank	63	15.77
Canara Bank	19	4.78
Bank of India	14	3.61
Bank of Baroda	9	2.27
HDFC Bank	83	20.74
Axis Bank	58	14.58
ICICI Bank	35	8.70
YES Bank	20	5.03
Kotak Mahindra Bank	4	0.94
Total	400	100.00
Source: Primary data		

Analysis of statistics

The subsequent degree in HR analytics entails studying the statistics accrued and measured. This stage specializes in figuring out crucial styles and tendencies that could affect the company in long run. The analytical stage makes use of the statistics from the HR metric stage to look at how the statistics can assist in giving the HR perception of the company's modern operations and deciding areas of improvement.

There are 3 described techniques of evaluation –

1. Descriptive analytics: The kind of evaluation in which ancient statistics is used to recognize methods wherein operations may be advanced.

2. Predictive analytics: This kind of evaluation makes use of statistical fashions to expect destiny dangers and possibilities for the company.

3. Prescriptive analytics: This kind of evaluation makes use of the forecasts accrued through predictive evaluation and makes use of it to discover the outcomes of those anticipated outcomes.

ANALYSIS & DISCUSSION

Table 1. Frequency Analysis

Descriptive Variables	Frequency	Percentage
Type of Industry		
NBFC (Non-Banking Financial Company)	231	77
Insurance	13	4.3
Banking	6	2
Other	50	16.7
Type of the Sector		
Private	290	96.7
Govt	10	3.3
Age of the company		
Less than 5 years	250	83.3
6-10 years	9	3
11-15 years	23	7.7
Above 15 Yrs	18	6
Types of functions performed		
HR	57	19
Sales	148	49.3
Support/Operations	37	12.3
Other	58	19.3
Designations		
Team Managers	104	34.7
First-line managers	75	25
Middle Level Managers	96	32
Top Managers	25	8.3

The responses were collected from the companies perceptive. The above table shows that the frequency of the respondents is based on the Type of company, Type of Industry, Age of the Company, Functions of the company and designations. Data are collected from 300 respondents and their responses were analyzed. 77 % of the respondents are from NBFC sector while 4.3% respondents are engaged with the Insurance Company , 2% of the respondents are employed in the

banking sectors while respondents who belong to other sectors are 16.7%. The Type of sector is categorized in to two categories namely Private and Government, in which 96.7% of respondents work in the private sector while 3.3% of respondents are employed in the government sector.

Table 2. Type of Industry with respect to Human Resource Analytics and Organizational Performance

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Human Resource Analytics	Between Groups	1.502	3	0.501	2.097	0
	Within Groups	70.655	296	0.239		
	Total	72.157	299			
Organizational Performance	Between Groups	2.184	3	0.728	2.726	0
	Within Groups	79.048	296	0.267		
	Total	81.232	299			

Human Resource Analytics - The results of ANOVA show a significant difference between respondents' Type of Industry with Human Resource Analytics [$F = 2.097$, $p=0.00 < 0.05$]. Hence the alternate hypothesis H1 a: “There is a significant difference between Type of Industry with respect to Human Resource Analytics” is accepted at 1 percent significance level.

Organizational Performance - The results of ANOVA show a significant difference in respondents' Type of Industry with [$F = 2.726$, $p=0.000 < 0.05$]. Hence the alternate hypothesis H1b: “There is a significant difference between Type of Industry with respect to Organizational Performance” is accepted at 1 percent significance level.

H2: There is a significant difference between the Type of sector with respect to Human Resource Analytics and Organizational Performance

Table 3: Significant difference between Types of functions in the Company with respect Human Resource Analytics and Organizational Performance

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Human Resources Analytics	Between Groups	0.978	3	0.326	1.356	0
	Within Groups	71.178	296	0.24		

	Total	72.157	299			
Organizational Performance	Between Groups	0.679	3	0.226	0.832	0
	Within Groups	80.553	296	0.272		
	Total	81.232	299			

Human Resource Analytics - The results of ANOVA show a significant difference between respondents' Types of functions in the company with Human Resource Analytics [$F = 1.356$, $p=0.00 < 0.05$]. Hence the alternate hypothesis H4a: “There is a significant difference between Types of functions in the company with respect to Human Resource Analytics” is accepted at a 1 percent significance level.

Organizational Performance - The results of ANOVA show a significant difference in respondents' Types of functions in the company with [$F = 0.832$, $p=0.000 < 0.05$]. Hence the alternate hypothesis H4b: “There is a significant difference between Types of functions in the company with respect to Organizational Performance” is accepted at a 1 percent significance level.

DISCUSSION AND CONCLUSION

The analysis of primary data proves that HR Analytics has strongly impact on organizational performance. Team Managers, First-line managers, Middle Level Managers and Top Managers from NBFC , Insurance and Banking have participated in the questionnaire survey ,recorded their opinions towards the effect HR analytics on organizational performance. Regression analysis was done to examine the effect of HR analytics and Human capital management on organizational performance. The results show that R value is 0.827 which indicates that there is (82.7%) relationship between Human Resource Analytics and Organizational Performance. The correlation between integration of HR analytics on Human capital and organizational performance is 87.2 % .It is estimated that (R square) 68.4 % of the variation in organizational performance is due to HR analytics

HR analytics is a data analysis method in which employee data is collected regularly by the HR department and is then used to understand how the company can ensure its success of the company. It plays an important role in aligning HR strategy with overall business strategy and is a practical tool for companies to understand where their strengths and weaknesses lie.HR analytics gains insights into employees to generate revenue for the company, reduce overall costs, correct risk, and determine each employee's contribution to implementing strategic planning. In this study, it is concluded that the implementation and use of HR analytics in organizations have been challenging because HR professionals may lack the necessary skills and knowledge to use HR analytics tools or there may be data quality or governance issues.

HR analytics and other unrecognized organizational methods that are related with HR analytics are ignored by many organizations. The study focuses on how HR practices could be used to change traditional roles to transformational roles in organizations. The study tries to explore and understand the role of analytics in this modern era. Increase of expectation in performance has put the focus on HR Analytics to create a new innovative and competitive world at work.

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