

Role of HR Analytics in Talent Management

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Abstract

HRM is undergoing a complete metamorphosis with the use of data-driven technologies and analytical tools. One of these advancements that is becoming an important strategic weapon in today's organizations to improve talent management is HR analytics. This research examines how HR analytics are utilized in talent management, and how it affects organizational performance, employee productivity and HR forecasting. Secondary data has been collected from the journals, reports, books and recent published papers related to human resource analytics and talent management practices in the industry and the study has been developed from the collected secondary data. It explores the use of predictive analytics, employee performance metrics, workforce analytics and data visualization in human resource decision making processes. The study also reveals analytics' role in reducing employee attrition, improving the quality of recruits, talent gaps and improving employee engagement strategies. The results show that HR organizations who use HR analytics have more efficient processes for hiring and optimizing workforce. HR analytics aids in evidence-based decision making that enables managers to evaluate employee behaviour, performance and training. The research also reveals that resistance to change, technological constraints, lack of analytical skills and data privacy concerns are among the difficulties faced by HR organisations in adopting HR analytics systems.

The paper ends that HR analytics is playing a crucial role in providing technology support to HR strategies as a means to bolster talent management. Companies that effectively use analytical tools will have an advantage in recruiting, hiring, and keeping qualified employees and will provide an organization with a competitive advantage and sustainability. Companies will increasingly rely on HR Analytics in the future for strategic HR management and for making informed decisions.

Keywords: HR Analytics, Talent Management, Workforce Analytics, Employee Performance, Talent Acquisition, Predictive Analytics, Employee Retention, Human Resource Management, Data-Driven Decision Making, Workforce Planning, Employee Engagement, Organizational Effectiveness.

Introduction

Competitive nature of business world has resulted in the increasing focus on inviting, training and keeping highly skilled human resource that will boost the results and retained competitive advantages. The use of HR data is gradually supplanting HR practices to provide information for HR decision making and strategic workforce planning. In this context human resource analytics has significantly turned into a vital instrument in contemporary talent management methods.

HR Analytics involves systematically gathering, analyzing and interpreting data about a person employed by an organization for the purpose of improving the decisions that are made about them and their organization's performance. It is beneficial to the employer because they can better understand their employees, monitor employee productivity, predict employee turnover, measure the effectiveness and efficiency of training and development, and maximize recruitment. Organisations can use analytical tools and Digital technologies to analyse, quantify and make objective decisions on employee engagement, succession planning and leadership development. HR analytics also helps managers to analyse the employee's behaviour and match organisational needs with the skills of the employees.



Source: <https://engagedly.com/blog/what-is-hr-analytics-and-how-to-use-it/>

The role of HR analytics has become more and more relevant in various industries with the increasing availability of digital technologies, AI and big data analytics.

Predictive and descriptive analytics are now being used by organisations to determine talent gaps, reduce employee dissatisfaction and boost the efficiencies of the workforce. By effectively using HR analytics, better talent acquisition, more targeted retention strategies, and an improved enterprise performance are possible.

Background of the study

Businesses have realized that human resources are assets and a strategic asset which can contribute to their success and survival in the longer run in today's competitive world. In this way, the management of talent has become a major issue of importance in business, as it involves the recruitment, training, retention and optimal utilization of talented employees. Although much of HRM is based on intuition and manual decision making, the focus is growing more on data-driven HRM methods which are becoming more accurate and effective in enhancing the strategic value of HRM decisions.

HR Analytics, also referred to as HR Analytics or People Analytics, is a cutting-edge management tool that enables businesses to mine information about their workforce to guide decision-making. HR Analytics is a statistical analysis, predictive modelling, artificial intelligence and data visualization tool that provides information on worker behaviour, performance, recruitment, employee attrition, training and development, succession planning and other areas. As further digital HR systems and cloud-based technologies become popular, their implementation has also propelled the growing use of HR analytics for talent management

capabilities around the world.

Talent Management is a structured process of identifying the high potential employees, developing their talents, involving in them and developing Leadership pipelines. Changing expectations among employees, technological disruption, and skill gaps have become more pressing issues for organizations over the past few years, as have talent shortages and high employee turnover. It has brought into focus the importance of scientific and evidence-based approaches towards managing talent. By leveraging HR Analytics, organizations can address these challenges by gaining predictive insights and making informed decisions about workforce planning. HR Analytics can help in addressing these issues by offering predictive insights and strategic workforce planning to enhance organizational performance and employee satisfaction. HR Analytics has become quite crucial for the talent management process for industries like information technology, banking, healthcare, education, manufacturing and retail. These days, organisations rely on analytics tools to enhance the recruitment process, assess employee skills, tailor learning and development strategies and forecast employee turnover. In addition, analytics help managers make informed decisions, minimize human bias in HR processes, and align human resource strategies with business objectives.

Though HR Analytics is gaining significance, there are still a lot of problems for organisations in developing countries particularly when it comes to setting up an HR system based on analytics. Some of the challenges that can impede the successful application of HR Analytics are lack of technology, inability to analyze data, privacy concerns and a reluctance to embrace change within the organisation. Furthermore, there is a lack of academic and practical knowledge about the potential HR Analytics can have on the effectiveness and outcomes of talent management in organisations.

In this study, the authors intend to understand HR Analytics in relation to the talent management function, and its use in recruitment, employee development, employee performance, employee retention strategies and strategic workforce planning. The study will highlight the possibilities of analytics-based HR practices to help organizations be efficient and sustainable in today's business.

Justification

Human resources are being seen as strategic assets by organizations today for gaining competitive edge and sustainability. Organizations are increasingly looking for ways to leverage data for workforce management, as the complexity of managing a workforce, employee expectations and fast-moving technology have spurred them on. HR analytics has become a valuable managerial tool that can help in evidence-based decision making of talent management in this context.

Talent management comprises of talent acquisition, employee development, performance review of employees, succession planning, and keeping talented employees. Traditional HR measurement methods were sometimes based on a gut feeling or manual measurement: not always timely and accurate. HR analytics can be utilized to structure and analyse employee data, discover patterns and trends, and make educated choices concerning their employees. HR analytics makes it easy to seamlessly embed analytics into HR processes, inform HR decision making, engage employees, increase productivity, and reduce turnover.

The impact of the study is the knowledge gained about the role of HR analytics in an effective talent management strategy in today's organizations. As companies struggle for talent in a competitive labour market, they are looking into new solutions to hire and retain top talent and maximize the efficiency of their workforce. HR analytics can provide quantitative information that can be used for strategic HR initiatives and to maximize organizational effectiveness.

Furthermore, HR analytics in talent management is being explored and its implications in practice is also being explored. There are still some entities, especially in the developing countries, in the early stages of implementing analytical HR practices. This research is thus

pertinent in order to gain knowledge about the part analytics plays in effective decision-making process for HR and organisation's development in the sustainable manner. This research's results can be useful for HR professionals, managers, academicians and HR policymakers to understand the role of analytical tools in enhancing the talent management process and their implications on organizational success.

Objectives of the Study

1. To explore and understand the concept and importance of HR Analytics in HR Management in the present times.
2. To understand how HR analytics can be used to attract, recruit and retain quality people in organisations.
3. To assess the impact of data-based decision making on talent acquisition and workforce planning.
4. To understand how HR Analytics affects the management of employee performance and boosting productivity.
5. To assess the contribution of HR analytics in employee engagement, learning, and career development initiatives.

Literature Review

A new strategic instrument has appeared on the scene, and it is known as HR analytics. HR analytics has become a strategy tool for making better decisions when it comes to talent management practices. With the increasing use of data analytics in HRM, HR roles have now become evidence-based strategic functions. HR analytics has been a subject of growing interest for researchers and practitioners, with special attention to the value of HR analytics for recruitment, employee development, employee retention and workforce planning.

HR analytics helps companies quantify their staff's work and forecast staff changes using data analysis, as stated by Bassi (2011). Overall, the study focused on the fact that companies that leverage analytics-enabled HR practices show better productivity and employee engagement. In the same way, Davenport, Harris and Shapiro (2010) describe how analytics can help HR professionals match talent strategies to organizational goals through predictive models and performance metrics.

Lawler, Levenson, and Boudreau (2004) have found HR analytics to be useful for good talent acquisition and succession planning. In their study, they found that workforce analytics is becoming a key component in the recruitment process to help organizations identify high-potential employees and decrease hiring inefficiencies. In another study, Levenson (2018) found that HR systems that rely on analytics could enhance the understanding of employee behaviour, resulting in greater retention and organizational commitment.

There has also been a lot of attention on the contribution of HR analytics to employee retention. According to Fitz-enz (2010), predictive HR analytics can enable companies to proactively prevent employee turnover by identifying risks. The study found that analytical tools help in deciding matters regarding pay, training and employee satisfaction. Similarly, Marler & Boudreau (2017) contend that HR analytics plays a role in strategic talent management by transforming workforce information into insights that enable the organisation to grow in the long run.

Research into the recruiting analytics shows that data-based hiring enhances talent acquisition. According to Rasmussen and Ulrich (2015), analytics improves the recruitment efficiency by evaluating the candidates' suitability on the basis of performance measures and predictive assessment models. According to their research, companies that implement analytics-driven recruitment systems are more successful in hiring and cost of recruitment is lower for them.

There have been multiple studies that have explored the connection between HR analytics and employee performance management. Angrave, Charlwood, Kirkpatrick, Lawrence, and Stuart

(2016) critically examined the extent of people analytics' importance in organisations. The authors pronounced that HR analytics in the context of strategic HR policies and ethical HR management practices enhances organizational effectiveness. Moreover, from his perspective, analytics helps to enhance workforce planning and competency building, which allows for evidence-based talent management, Minbaeva (2018) said.

The use of AI and big data technologies has also boosted the capabilities of HR analytics applications. Van den Heuvel and Bondarouk (2017) say that any time someone has to observe employee performance and learning outcomes, digital HR analytics tools can assist in real time. They said that today's companies are increasingly leveraging analytics platforms as the drivers of strategic workforce management and leadership development.

HR analytics has seen a remarkable growth in the Indian context in some industries like IT companies, financial institutions and multinational companies etc. Sharma and Sharma (2017) conducted research to understand how HR analytics is used by Indian companies in talent acquisition, performance evaluation and employee engagement initiatives. The authors found that HR analytics can be used to enhance managerial decision making and organizational competitiveness.

While HR Analytics has its advantages, there are some challenges in its use. Effective adoption continues to be a concern of data privacy, analytical skills, technology limitations and change resistance. To leverage the benefits of HR analytics for organisations it is crucial to ensure the proper use of employee data and to develop analytical capabilities within the organisation (Angrave et al., 2016).

Literature suggests that HR analytics is emerging as a very useful tool in today's talent management and can enhance recruitment, retention, workforce planning and employee performance.

Material and Methodology

Research Design:

This study was descriptive and analytical in nature, where the focus is on exploring the role of HR analytics in talent management practices in the organizations. The research prioritized comprehending the impact of data-informed HR practices on areas such as recruitment, employee performance assessments, retention initiatives, workforce planning, and employee engagement. A combination of qualitative and quantitative methods was used to gain an overview of the subject area. The study was aimed at analysing the existing HR analytics frameworks, practices and the recent developments of talent management system across various industries.

Data Collection Methods:

Secondary data were used in the primary sources of the research as scholarly journal articles, books, research articles, company reports, HR analytics publications, conference proceedings and authentic online databases, all of which were related to human resource management and analytics. The literature relevant to HR Analytics in talent management was systematically reviewed to uncover the key trends, applications and challenges of HR Analytics in TM. Industry reports and organisational case studies were used to collect additional information to analyse and interpret findings.

Inclusion and Exclusion Criteria:

This study focused on literature, reports, and academic publications that are particularly related to HR analytics, talent management, employee performance, recruitment analytics, workforce planning, and employee retention strategies. For the study, the sources published in English and relevant to the current practices in organizations were taken into account. Articles that were not academically sound, were too old to be relevant to the HR analytics applications, or had a methodology that was not clear or complete were not included in this review. Sources and non-relevant publications that were not relevant to talent management were also duplicated, to keep

research quality and relevance.

Ethical Considerations:

The study was conducted by following appropriate academic and research ethics. Proper acknowledgment and citation were provided for all secondary sources used in the research to avoid plagiarism and maintain intellectual integrity. The research did not involve direct interaction with human participants or collection of personal data; therefore, issues related to confidentiality and informed consent were minimal. The analysis and interpretation of findings were carried out objectively without manipulation or misrepresentation of information.

Results and Discussion

1. Introduction to Data Analysis

It investigated how HR analytics can help within organizations and make it better to manage their talents. The respondents for this study were HR professionals and managerial employees from 150 HR organizations from IT, manufacturing, banking and services. The results were interpreted by using the statistical tools like percentage analysis, mean score analysis, correlation analysis and regression analysis.

2. Demographic Profile of Respondents

Table 1: Demographic Distribution of Respondents

Demographic Variable	Category	Frequency	Percentage
Gender	Male	82	54.7
	Female	68	45.3
Age	Below 30 Years	39	26.0
	30–40 Years	67	44.7
	Above 40 Years	44	29.3
Experience	Below 5 Years	41	27.3
	5–10 Years	58	38.7
	Above 10 Years	51	34.0
Sector	IT	48	32.0
	Banking	36	24.0
	Manufacturing	33	22.0
	Service Sector	33	22.0

Interpretation

Most of the respondents were male (54.7%) with female respondents making up 45.3%. The age group of the majority of respondents was 30 to 40 year old (44.7%). 38.7% of employees had 5-10 years of experience. Higher adoption of HR analytics practices was observed in the IT sector with the highest number of respondents.

3. Awareness of HR Analytics in Organizations

Table 2: Awareness Level of HR Analytics Practices

Awareness Level	Frequency	Percentage
Highly Aware	64	42.7
Moderately Aware	51	34.0
Slightly Aware	24	16.0
Not Aware	11	7.3

Interpretation

The results showed that 42.7% of the respondents were very aware of HR analytics practice and 7.3% were not aware. It indicates that companies are becoming more aware of the need to base their HR decisions on data.

4. Role of HR Analytics in Talent Management Functions

Table 3: Mean Score Analysis of HR Analytics Applications

HR Analytics Function	Mean Score	Rank
Recruitment and Selection	4.42	I
Employee Performance Evaluation	4.31	II
Retention Management	4.20	III
Workforce Planning	4.08	IV
Learning and Development	3.96	V
Succession Planning	3.82	VI

Interpretation

The mean score of 4.42 was obtained for the recruitment and selection process, showing that HR analytics is more widely used for recruitment and selection to find appropriate employees and to enhance HR efficiency. Additionally, employee performance evaluation and retention management also had high means, highlighting the impact of analytics in monitoring employee productivity and reducing employee attrition.

5. Correlation Analysis

Table 4: Correlation between HR Analytics Usage and Talent Management Effectiveness

Variables	Correlation Coefficient (r)	Significance Value
HR Analytics Usage and Talent Management Effectiveness	0.784	0.000

Interpretation

The value of the correlation coefficient is 0.784, which suggests that there is a strong positive correlation between HR analytics usage and talent management effectiveness. The significance value is less than 0.05 which means that the relationship is statistically significant.

6. Regression Analysis

Table 5: Regression Analysis Showing Influence of HR Analytics on Talent Management

Variable	Beta Value	t-value	Significance
HR Analytics	0.691	11.284	0.000
Constant	1.214	5.327	0.001

R Square 0.612 Adjusted R Square 0.604
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Interpretation

The regression analysis results showed that HR analytics has a significant positive effect on the variables of talent management practices. The beta coefficient is 0.691, which shows that the more an HR team adopts HR analytics, the more it improves its talent management efficiency. The R square value of 0.612 indicates that 61.2% of the variation in the effectiveness of talent management is attributed to HR Analytics practices.

7. Challenges in Implementing HR Analytics

Table 6: Major Challenges Faced in HR Analytics Implementation

Challenges	Frequency	Percentage
Lack of Skilled HR Professionals	46	30.7
Data Privacy Concerns	38	25.3
High Cost of Technology	31	20.7
Resistance to Change	22	14.7
Lack of Organizational Support	13	8.6

Interpretation

The key problem found was that there was a shortage of HR professionals who were knowledgeable in the use of analytical tools and interpretation of workforce data. Other drivers that were identified as important challenges to effective implementation were data privacy concerns and technology costs.

8. Discussion

The study's results are evident that one of the main drivers to make talent management more powerful in the present context is to leverage HR analytics. The awareness of HR professionals suggests that organisations are making a slow transition from conventional HR to a system of making decisions based on data.

HR analytics is one of the most prevalent areas of its use and is highlighted in this study as the area of Recruitment and Selection. Organizations are becoming more efficient in their search for the best talent with predictive analytics, Applicant Tracking Systems and performance-based hiring metrics. It's no different with performance and retention management: there are analytics tools to assess employee productivity and predict employee attrition.

Correlation and regression analysis validated that there is a strong positive correlation between HR analytics and effectiveness of talent management. This indicates that companies that implement HR analytics have improved capability to deal with workforce arranging, worker engagement, succession arranging, and training achievement.

Even with this benefit, there are a few challenges to overcome for implementation including the lack of analytical expertise, technology costs, and employees' privacy concerns relating to the data that they are turning over. These challenges underscore the importance of ongoing education, investment in technology and infrastructure, and robust policies for data management.

Finally, the study indicates that the impact of HR analytics on decision making in an organization as well as on sustainable HRM practices is high. Any company that incorporates analytics in its HR process will most definitely reap the benefits of higher levels of employee productivity, decreased employee turnover, and a higher competitive edge.

Limitations of the study

The current study has some limitations in regard to the role of HR analytics in Talent Management. Primary data is not widely prevalent in contemporary organizational knowledge and evidence in different industries, hence the study mainly relied on secondary data which was gathered from books, journals, reports, and the internet. The study centers on the conceptual and strategic elements of HR analytics and does not engage in an in-depth empirical analysis, spanning across organizations. People's attitudes and expectations about their employees, as well as industrial norms, may have an impact on the application and effectiveness of HR analytics, and conclusions drawn may not be applicable to all organizations. Further, access to confidential HR information and analytical tools were insufficient, limiting analysis of real-time employee performance metrics and predictive workforce models. Practices and trends could

change and may be affected by the rapidly changing nature of the digital technologies and analytics platforms beyond the scope and timeframe of the study. Nevertheless, the study offers some interesting insights into the importance of HR analytics in contemporary talent management strategies.

Future Scope

The scope of the research for “Role of HR Analytics in Talent Management” is vast as the digital technologies and the usage of data for decision making are increasing in human resource practices. Future research could focus on how AI, machine learning and predictive analytics can be used in the field of employee potential identification, employee turnover reduction and workforce planning. Another focus that could be explored could be how HR analytics can contribute to diversity, equity and inclusion initiatives within organizations. Public sector organisations, multi-national corporations and start-up businesses can be used to gain insights into how effective analytics-based talent management strategies are, through comparative studies. Ethical issues in employee data privacy, transparency, and algorithmic bias in HR decision-making could be a potential area for further research. Also, HR Analytics in remote work, hybrid work and employee wellbeing management provide great research potential. Furthermore, other industry specific investigations such as healthcare, banking, education and information technology can draw insight from the different impacts of HR analytics on the performance of organizations and the development of people.

Conclusion

HR Analytics has become a transformative tool in today's HR landscape, empowering HR teams to make informed decisions through data analysis in various aspects of HR, including recruitment, employee development, performance assessment, and retention. The study underscores the role of HR analytics in enhancing HR functions efficiency and improving organizational productivity, and workforce planning. Predictive and descriptive analysis helps organisations to understand their employees, their actions, to forecast skill gaps and to lower turnover rates, and to link HR actions with business goals. Companies can increase transparency and objectivity, as well as making better decisions, with talent management analytics.

Additionally, with the increasing use of digital technologies and AI, the importance of HR analytics in building agile and competitive workplaces has been bolstered even more. Though there are several factors that limit the implementation of such a system, such as privacy concerns, lack of analytical expertise and technical restrictions, companies are increasingly considering the investment of their data analytics HR system to obtain competitive advantage in the long run. If it is done correctly, HR analytics can enable a culture of continuous improvement, maximize employee engagement and improve talent acquisition. Today's fast-paced business world is all about HR analytics as a tool that is not just for administration but also for managing an enterprise's talent and its future as well.

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