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*by* Devanshi Tomar

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**Submission date:** 25-May-2026 10:40AM (UTC+0530)

**Submission ID:** 2968877485

**File name:** Devanshi\_Tomar.pdf (724.05K)

**Word count:** 13616

**Character count:** 78822

**Project Dissertation Report on  
Evolution and Importance of HR Analytics in Modern  
Organizations**

Submitted By  
Devanshi Tomar  
2k24/DMBA/071

**1**  
Under the Guidance of  
**Dr. Veenu Shankar**  
(Assistant Professor)



**Delhi School of Management**  
**Delhi Technological University**  
**Bawana Road, Delhi 110042**



### **Certificate**

This is to certify that the Major Research Project titled "Evolution and Importance of HR Analytics in Modern Organizations" is a bona fide record of original work carried out by **Miss. Devanshi Tomar**, Roll Number **24/DMBA/071**, in partial fulfilment of the requirements for the award of the degree of Master of Business Administration at Delhi School of Management, Delhi Technological University, Delhi.

This project has been completed under my supervision and guidance and is a genuine and original work to the best of my knowledge.

**Dr. Veenu Shankar**

(Assistant Professor)

Place: Delhi

Date: 26-05-2026



### **Declaration**

I, Devanshi Tomar, hereby declare that the Major Research Project titled “Evolution and Importance of HR Analytics in Modern Organization” Submitted by me, in partial fulfilment of the requirements for the award of the degree of Master of Business Administration (MBA), is a record of original work carried out by me under the supervision and guidance of **Dr. Veenu Shankar** at Delhi School of Management, Delhi Technological University.

I further declare that this work has not been submitted previously by me or any other individual for the award of any degree, diploma, or any other similar title in this or any other university or institution.

Place: Delhi

Date: 26-05-2026

Signature of the Student  
MBA (Batch 2024–26)  
Roll No: 2k24/DMBA/071



## Acknowledgement

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I would like to express my sincere gratitude to all those who supported me throughout the course of this Major Research Project titled “Evolution and Importance of HR Analytics in Modern Organization.”

I am extremely thankful to my faculty guide, Dr. Veenu Shankar for her guidance, encouragement and support throughout the years. Her comments and recommendations were very important in the development of this research. I also wish to express my gratitude to all the faculty members of Delhi School of Management, Delhi Technological University for their continuous academic guidance and inspiration. I would like to extend my gratitude to all the HR professionals, recruiters and job seekers who took time to speak with me during the primary research stage. Many thanks to my fellow students, friends and family for their constant support, encouragement and understanding during this project. I would like to thank everyone who contributed to this work, it would have been impossible without all your contributions.



## Executive Summary

This report explores the evolution and importance of HR analytics in today's business environment. It emphasizes its shift from traditional HRM to a data-driven and strategic approach. Data is used to make decisions in today's highly competitive business environment. HR analytics is now a crucial tool for enhancing efficiency and effectiveness in HR practices. This study follows the development of HR analytics from descriptive analytics (historical data and basic reporting) to predictive analytics (predicting employee behaviour and performance). It also discusses the rise of prescriptive analytics, which helps with proactive decision-making through insights based on data. The use of technologies like artificial intelligence, machine learning, and big data has greatly improved the scope and accuracy of HR analytics. The report highlights the applications of HR analytics in important HR functions. It enhances the recruitment process in sourcing, streamlines the candidate selection, and elevates the quality of hiring decisions. HR Analytics helps organizations in talent management and performance assessment by enabling them to plan their workforce, understand their skill gaps, and track performance effectively. It also ensures improved employee engagement and retention by examining employee data and feedback. Moreover, the study will summarize the present research and highlight the trends and the rising significance of HR analytics in organizations across the globe. It also highlights problems such as poor data quality, the lack of analytical skills, limitations in technology and ethics issues regarding data privacy and bias.. Overall, the report highlights the growing significance of HR analytics in enabling better decision-making and improving organizational performance.



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## Chapter 1 Introduction

### 1.1 Background

“The key to artificial intelligence has always been representation.”

—Jeff Hawkins

AI is the new orange; no, it's not going to turn into an evil machine that will end humankind. AI is a mere tool, a powerful one, yes, but like any other technology out there, it is a tool. A tool that lacks proper representation. Various assumptions are leaving people with knots in their stomachs over the question of whether AI will replace them. But is that so?

To understand this in depth, let us look at the very core function of any organization that is connected to humans: human resource management. Is AI really impacting its work processes or eliminating jobs? But before we cross that bridge, let us know how AI came to be and how it has evolved over the years.

The idea of AI first took root in the mid-20th century, when the Sir Dartmouth Conference first coined the term ‘Artificial Intelligence,’ marking the early stage of AI, where prime focus was on basic problem solving and symbolic reasoning, and faced severe slow growth due to financial constraints and limited computing powers.

Then, after this initial stage, there is ‘AI Winters’ where we see AI progressive growth and decline, but it wasn't until the 21st century that we see some concrete growth and evidence of growth. With the rise of big data, better computing machines, and improved algorithms, it advanced rapidly, and today, AI has its branches spread out to various verticals, be it customer services, data analysis, or human resources management.

Along with the evolution of AI in all the verticals, it is now playing a major role in human resource management as well. Traditionally, HR has always been

centered around managing people, recruitment, training, performance evaluation, and employee engagement. Now, with the integration of this tool, many of these functions are streamlined and enhanced by reducing manual work hours and improving efficiency. However, with all these advancements, AI does not and further will not change the human aspect of the job; instead, it now acts as a supportive tool that complements human skills to another level.

With such advancements, research in this field has also expanded on a large scale, with an ample amount of data to support our queries. One such research paper is “*How HR Analytics evolved over time: a bibliometric analysis on Scopus database*” by MD. Nazmus Sakib, Shah Ridwan Chowdhary, Mohammad Younus.

Who enabled us to contextualize this report with existing academic literature and help us form a coherent opinion?

### **Evolution of Recruitment Practices**

The biggest shift occurred when we began to utilize computers for recruitment. We acquired Applicant Tracking Systems which enabled us to store and keep track of everything related to job applicants. It was a lot easier now. It was still rather simple. We could not really use the data to make decisions. But all that began to change. We began to use analytics. This includes analyzing previous information to identify successful and unsuccessful aspects. We could observe <sup>59</sup> the time it took to hire someone and the price that was charged. We might even be able to determine which job positions were most suited to which job websites. This was a positive step as it was now possible to make decisions based on facts, not opinions. Predictive Analytics was the next step. This is where we apply data to make predictions. It can be used to discover who would be successful and who would stay with the company for longer. We might be able to even find out which candidates would be best suited to the company culture. This was a big shift since we were now able to begin making hiring decisions based on data. We started using prescriptive analytics in recent years. This means utilizing data to obtain suggestions on what to do. It can inform us who to hire, and when to make an offer to hire. From media profiles and work samples we can get a better grasp of the candidates and their abilities. This has greatly simplified and expedited the recruitment process. One of the benefits of HR analytics is that it can help minimize hiring bias. Using data in decision making helps us to be less influenced by our biases. But we need to be careful, as the data may also be skewed if we are not careful. We have begun to link the recruitment process to other areas of the business such as talent management, This allows us to see how well someone performs after they are hired and use that information to improve our hiring process. This is significant because it means we can continue to enhance our hiring practices.

In the end, our approach to hiring has transformed significantly because of HR analytics. We are now using data to make decisions rather than solely relying on our instincts. This has made the hiring process more efficient and accurate. As

technology keeps improving, HR analytics will become even more important. It will help us find, evaluate, and retain talent, <sup>54</sup> which is essential in today's fast-paced business environment..

### **Importance of Candidate Experience**

Now, due to HR analytics, the experience itself and the hiring experience have taken up significance. Organizations are realizing that when it comes to hiring someone, it is not only about the positions being filled but also that everyone should have a good experience.

From the hire's point of view the experience they have is very important. It helps them figure out what they think of the organization. HR analytics helps us track things like how many people finish their applications and how long it takes to get through each stage what people say about their interviews. If they accept the job offer. By looking at these things' organizations can find problems, make the process faster and make it easier for people to understand. For example, if a lot of people drop out at one stage the recruiters can make that stage better. If the hiree has an experience, they are more likely to take the job and say good things about the organization to others.

HR analytics also helps make recruitment more personal. By looking at the data from the candidates' organizations can talk to them in a way that's more personal suggest jobs that are a good fit and keep them updated. This helps the candidates feel unsure and anxious. <sup>18</sup> They are more likely to be engaged and happy. In a job market, using data to make things personal can be a big advantage in getting the best people.

From the hirer's point of view, HR analytics makes decision-making and efficiency better. Since the number of applications is quite high, recruiters use analytical software to analyze the priorities and evaluate applicants based on the criteria that are important for making the right decision. Criteria such as the quality of the candidate, source of talent, and predictors of success play an essential role

as they ensure that only the most suitable candidates get attention from the recruiter. In this case, the process of recruiting is more efficient and cost-effective.

Moreover, the efficiency and productivity of the recruiting process increase because using HR analytics decreases the volume of workload of the recruiter. For example, the automation of resume reviewing, scheduling interviews, and follow-ups gives recruiters the opportunity to concentrate on other tasks related to interaction with candidates.

Additionally, it becomes crucial to ensure that the hiree's expectations coincide with those of the hirer. Here, HR analytics proves helpful since, based on it, recruiters will be able to understand the expectations of potential employees, the latest trends, and salary standards. The information provided in HR analytics will help design job offers that will resonate with the preferences of job seekers and thus satisfy both parties.

In addition, the use of HR analytics in recruiting will allow for creating an impartial, objective process. Indeed, applying the criteria to all candidates and evaluating them based not on one's gut feelings but on relevant data allows minimizing subjectivity and bias, thus creating more equality among all participants of the process.

To sum up, HR analytics plays an important role in improving both hiring experience and process. Using it, organizations will create a recruiting process that will be efficient, transparent, and personalized while providing great insights to recruiters. Finally, by taking into consideration the perspectives of both the recruit and the recruiter, we can achieve better recruitment results, employer branding, and ultimately organizational success.

#### **Role of AI Across the Recruitment Lifecycle**

AI is no longer restricted to technologically sophisticated firms for its use in the recruiting process, but it has turned into a phenomenon in the world. AI

technology has been adopted by all types of organizations, including large multinationals and even new startups. The use of AI technologies is one of the trends associated with the revolution in Human Resource Analytics (HRA).

### **Global Trends in HRA Evolution**

Some of the organizations around the world that have adopted the idea of AI for Human Resource Analytics are Unilever, IBM and Accenture. Unilever uses AI for video interviews alongside gamified tests, making the process of handling candidates' data much faster and analysis more insightful. Another example includes IBM with its Watson system. The Watson system has been used by IBM to analyze huge amounts of candidate data, thus helping recruiters make decisions.

In advanced platforms such as HireVue, Pymetrics, Eightfold.ai, and XOR, it is evident that the role of human resource analytics has moved to a different level from what it was before, thanks to the adoption of machine learning and predictive models.

### **Adoption of HRA in India**

Rapid Digitization of Human Resource practices in India has greatly aided the growth of Human Resource Analytics. Large companies such as Infosys, TCS, Wipro, and HCL Technologies have been using analytics-based recruitment systems for mass recruitment and planning workforce needs. AI-enabled technologies are used in analyzing competencies and screening, and decision-making processes.

Additionally, there are companies such as Belong, Xobin, and Talview that have played a role in shaping HRA by coming up with analytics-based recruitment platforms. These platforms are instrumental in mining passive talent pools and analyzing their data.

Key drivers behind the evolution of HRA

Some of the factors behind the increase in the use of HRA include:

Scalability: The use of analytics helps organizations analyze large volumes of data on employees.

Cost-efficiencies: Through automation, the process becomes more cost-effective.

Digitization: Due to the shift towards remote and virtual workplaces, analytics-based HR solutions have become increasingly popular.

Data-Based Workforce Planning: Workforce planning is based on data analytics and dashboarding.

### **Impact on Candidate Experience and HR Outcomes**

The evolution of Human Resource Analytics has been highly influential, not only enhancing organizational outcomes but also guaranteeing an improved experience for the applicants. The analytics-based system ensures prompt feedback, personal interaction, and transparency, thereby affecting the applicant experience positively.

The data collected from the survey reveals that most applicants have found themselves becoming more comfortable using the AI-enabled systems, provided these operate in a fair, efficient, and transparent manner..

### **Opportunities in Advanced HRA Systems**

#### Increased Efficiency and Speed

Automation through analytics decreases the time spent recruiting employees through the automatic sorting of resumes and setting up interviews.

#### Improved Recruitment Quality

Through predictive analytics, the organization is able to determine the profile of potential employees that would perform effectively, reducing employee turnover.

#### Consistency

With the adoption of a data-based system for evaluation of potential employees, consistency is enhanced due to reduced human biases.

#### Personalization

Using modern analytics technologies, organizations can be able to create personalized engagement with potential employees.

#### Analysis and Prediction of Trends

Through the modern HRA system, you can receive real-time analysis and prediction of trends, such as high turnover and inefficiencies during the

recruitment process.

Higher Organization Performance Levels

Analytics in HRA improves organizational performance

#### **Post-COVID Acceleration of HRA Evolution**

Pandemic such as that caused by coronavirus served as the trigger for adoption of Human Resource Analytics. It became clear that remote working was not compatible with the conventional HR management techniques.

More and more companies started using virtual recruitment technologies, online assessment tools and automated onboarding procedures. This trend only underscored the significance of HR solutions that were flexible and based on analytics

#### **Future Implications of HRA Evolution**

It can be seen from the evolution of HRA that an increasing trend is witnessed in relation to the development of sophisticated HR analytics that uses artificial intelligence. The use of HR analytics has also become a concern as far as its ethical and effective implementation in organizations is concerned.

The question today is not just about implementing HRA but effectively utilizing it in decision-making and organization management to ensure success.

## 1.2 Problem Statement

Indeed, in today's era, organizations realize the significance of people for the success of their operations.

They wish to be able to make decisions concerning their employees. HR analytics plays the role of the tool aimed at collecting and analyzing data concerning people working in a company and providing the company with means of making decisions, improving performance of employees and achieving strategic objectives. The evolution of HR analytics led to the transformation from reporting on past data to prediction and recommendation made possible by various technologies such as data, artificial intelligence, and machine learning.

Despite the significance of HR analytics and its growing importance for companies, currently there is a significant gap between its potential capabilities and the way it is being utilized by organizations. Indeed, the majority of companies operate based on the traditional model and do not leverage data-driven decision-making. The problems related to lack of numeracy among HR staff members and outdated HR infrastructure hamper the adoption of HR analytics.

The most part of existing literature did not address the issue of development of HR analytics and its impact on company performance. Thus, there is no research dedicated to the development of HR analytics.

Though there have been various searches on the evolution and application of HR analytics, further research needs to be done on the evolution and importance of HR analytics in today's world.

In this research, the focus will be on the evolution of HR analytics and its importance for organizations. The literature will help in finding out gaps in the current knowledge and provide insights regarding how HR analytics can be used to take effective decisions related to employees. Importance of HR analytics. HR analytics is important for organizations. Organizations use HR analytics.

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### 1.3 Objectives of the Study

Therefore, the key research objective of this paper involves exploring the development of Human Resources analytics and its significance in organizations. The aim is to explore how this approach facilitates decision-making based on data analysis and management of Human Resources. Thus, Human Resources analytics transforms the practices associated with Human Resources practices by making Human Resources functions analytical and evidence-based. Human Resources analytics allows for planning organization's staffing more effectively.

The following research objectives will be achieved through the course of this study:

Explore how Human Resources analytics has evolved over time. It was initially a descriptive practice associated with reporting, whereas now technology allows Human Resources analysts to make predictions and offer recommendations.

Analyze the role of Human Resources analytics in Human Resources practices. The focus will be placed on recruitment, talent management, employee performance assessment, and retention. It is important to explore Human Resources decision-making at each stage. Human Resources analytics plays an integral role in Human Resources practices.

Explore the significance of Human Resources analytics for improving organizational performance. It should enhance productivity. Be ahead of competitors. It can be done through the analysis of workforce data. Human Resources analytics benefits organizations.

Assess the impact of Human Resources analytics on enhancing the organizational and individual performance. The performance improvement includes the level of engagement, happiness, satisfaction, and other positive indicators related to Human Resources employees. Human Resources employees play a major role.

Determine the challenges associated with the use of Human Resources analytics. These may include such factors as low-quality data, lack of

expertise, technological problems, bias, and other ethical issues.

Study the literature on Human Resources analytics and find out what is happening currently, emerging trends, and new ideas in the field. Human Resources analytics is a rapidly developing area of study.

Propose the areas that present promising opportunities for further development of Human Resources analytics practice

#### 1.4 Scope of the Study

The scope of this research is to examine changes that have taken place and the importance of HR analytics in organizations by concentrating on HR analytics and its contribution to the transition of traditional human resource activities into data-based and strategic ones. The research will be primarily based on a review of current literature on the topic in order to give an overview of the evolution of HR analytics and its present application within organizations.

The following areas related to HR analytics will be examined: its employment in various HR activities like talent acquisition, talent management, performance management, and talent retention; decision making processes, organizational performance enhancement, and improved employee experience through HR analytics. Furthermore, the role of certain technologies in modern HR analytics will also be considered.

Additionally, the negative aspects of using HR analytics, such as issues with the lack of accuracy of information about skill gaps, ethical considerations, and technological limitations will be examined. Trends in the development of HR analytics, as well as the areas of possible improvement in the future, will be analyzed based on existing scientific literature.

Nevertheless, there are certain limitations to the present study. In particular, no new data will be collected – the study will rely solely on existing sources. No primary methods, such as surveys and interviews, will be used. Moreover, no analysis of a certain company will be conducted; instead, general practices in organizations will be considered.

Nevertheless, given the limitations, the study will try to provide useful findings on HR analytics and its strategic value for organizations in the age of Big Data.

Understanding the significance of HR analytics and its use by organizations is an essential part of the scope of this research, while HR analytics itself plays an important role in the organization.

Understanding HR analytics is an important step towards recognizing its benefits.

## Literature Review

### 2.1 Introduction to the Systematic Literature Review:

Systematic Literature Review (SLR) technique will be used in this study to critically evaluate the results and theories on Human Resource Analytics. The choice of this approach is due to the fact that the technique enables the identification, evaluation and synthesis of literature in a methodical and repeatable manner. Only peer-reviewed journal articles, conference papers and reports published between 2005 and 2024 are included in this SLR. The main databases used are Scopus, Google Scholar and Web of Science. The key words used for identifying relevant information are: HR Analytics, Human Resource Analytics Evaluation, Predictive HR, AI in HR, and Data-driven HRM. The proposed Systematic Literature Review (SLR) deals with the analysis of the time evolution of Human Resource Analytics (HRA) in relation to its increasing relevance in modern companies.

Specifically, this review seeks to analyze the concepts of HRA and highlight the applications, technologies, importance of using HRA, and the challenges associated with its implementation. Namely, the challenges related to HRA usage, such as those linked to data privacy, shortage of workforce and technology capabilities will be discussed. In addition, the gaps in existing studies will be identified and further directions provided.

### 2.2 Evolution of Human Resource Analytics

There is enough evidence in the literature showing that Human Resource Analytics has been undergoing considerable changes. The most recent research conducted by Sakib et al. (2024) in their article entitled "How Human Resource Analytics Evolved Over Time: A Bibliometric Analysis on Scopus Database" offers valuable insights into this evolution.

According to the authors, the interest towards HRA was increasing starting from 2008, whereas its rapid growth started after 2014. This indicates how significant HRA has become for HRM and decision-making.

There have been three main stages of development of Human Resource Analytics: Descriptive HR analytics: Based on past information, such as employees' turnover rates, absenteeism, and recruiting processes.

Predictive HR analytics: Involves the use of statistics and machine learning in order

to predict future employees' behavior and performances.

Prescriptive HR analytics: Provides managers with advice for better decisions.

It can be concluded that there is a gradual transition from backward-looking analysis to strategic decision-making.

### 2.3 Comparative Studies

Role of HR Analytics in Strategic HRM:

Researchers emphasize the strategic significance of HRA in making HR activities aligned with the objectives of the organization.

According to Marler and Boudreau (2017), HRA increases the effectiveness of an organization because it creates a link between workforce analytics and the strategic objectives of the organization. It enables HR professionals to go beyond administrative tasks and participate in strategic decision-making.

As pointed out by Minbaeva (2018), HRA helps in using evidence-based HRM. This means that HRA can help in making decisions on the basis of data rather than intuition.

The above-mentioned research shows that HRA can improve:

- Productivity of the workforce
- The performance of the organization
- Strategic alignment

#### **77 Application of HR Analytics in Recruitment and Talent Management**

Recruitment and talent management with the help of Human Resource Analytics (HRA) is considered one of the most commonly discussed topics in the existing literature. The use of HR Analytics can enhance the efficiency of the recruitment process as it allows companies to determine the most appropriate recruiting channels, improve screening processes, and minimize biases during the recruiting process (Angrave et al., 2016). Additionally, predictive analytics models are often used to estimate the probability of success and retention rates in order to make appropriate decisions. With the use of HR Analytics, companies can determine skills that require improvement, develop personalized training and development plans, and plan their staffing more effectively..

## Integration of Artificial Intelligence and Machine Learning

There is extensive evidence of the increasing use of AI and ML in Human Resource Analytics from recent studies.

As explained by Sakib et al. (2024), the use of these technologies has brought about significant improvements in the precision, efficiency, and capability of HR Analytics methods. These technologies can analyze large volumes of data in both structured and unstructured formats, allowing organizations to gain insight into the behavior of employees.

Applications of AI in HR include resume screening and candidate selection, sentiment analysis on the basis of feedback provided by employees, and prediction of employee turnover and performance. These technologies have completely changed HR operations from being a purely administrative process to a much more efficient data-based approach.

### 2.4 Challenges in Implementing HR Analytics

However, there are also some difficulties faced by organizations in the implementation process of HRA.

First and foremost, the difficulty of quality and integrated data becomes a major one, as many organizations have employees' information spread across different databases. Inconsistency in data can lower the credibility of results gained from HR analytics and lead to flawed decisions made by managers based on such results. Another problem is that there may not be enough competent professionals who possess both HR and analytics expertise, since HR Analytics demands the ability to work with statistical instruments and data.

#### Data Quality and Availability

A key problem would be the low quality of data. Badly collected data might lead to wrong information and wrong decisions.

#### Skills Gap in HR Professionals

Furthermore, the employment of employee data in HR analytics involves ethical and privacy challenges as well. Organizations gather employee data relating to performance, conduct, absenteeism, and engagement; therefore, there are issues concerning data privacy and confidentiality. Some of the ethical challenges include the lack of transparency when it comes to how the data of employees is used as well as when conducting analytics. Another key challenge that may arise from using data for analytics is the existence of biases in the algorithmic and artificial intelligence systems used in decision-making. The algorithms can be

biased based on the data used during training, hence resulting in unethical decisions during recruitment, promotions, and performance evaluation, among other things. According to Sakib et al. (2024), companies have to put strong ethical considerations in place to address issues relating to HR analytics.

### **Integration with Business Strategy**

Another important aspect discussed by experts is the lack of integration of HRA with the overall strategy of organizations. Despite the high potential of HR Analytics to help make decisions related to strategy development and implementation, many companies still employ it independently to solve HR tasks, thus failing to leverage its power for other purposes. Therefore, it becomes difficult for HR Analytics to make an adequate contribution to organizational strategy development and improvement. Moreover, in many situations, analytics results are not integrated with business processes and operations, financial aspects, or even strategic objectives of organizations, which hinders further success.

Effective integration of HR Analytics presupposes proper alignment with organizational objectives and needs and close collaboration between different departments and managers within companies. In particular, cooperation among HR departments, management teams, and various business units is crucial to achieve the desired outcomes and integrate analytics into different parts of organizations' operations. At the same time, management and leaders' support is required to develop a proper data-driven culture in organizations and promote the use of analytics for making important decisions.

### **Global Trends in HR Analytics**

From the results of the SLR, it can be seen that Human Resource Analytics (HRA) is getting recognized around the globe as its importance is increasing with time. A number of important studies and case examples have been referenced from <sup>37</sup> countries such as the United States, India, the United Kingdom and the Netherlands, illustrating the international relevance and growing popularity of HR Analytics in modern organizations and businesses. These countries have proven to be very successful when it comes to implementing analytical techniques and methods in their HR activities. In the United States, for instance, companies are starting to learn about HR Analytics by using sophisticated HR Analytics platforms which feature Artificial Intelligence, Machine Learning, and predictive analytics. Strategic workforce planning, employee engagement, recruitment and performance enhancement are the areas that have become significant in HR Analytics research in these countries. The Netherlands is another country that is worth mentioning because of the study of HR Analytics. With the increasing digitization of firms and growth in the IT services sector, the uptake of HR Analytics in India has also picked up pace. There is growing usage of HR analytics for recruitment, staff retention, measuring productivity, and workforce planning, among others, by Indian firms. Besides, there is a growing interest of academic and research institutes towards HR Analytics implementation in India. From the top view, it can be seen that research activities have grown not only in quantity, but also internationally, in the field of HR Analytics. HR analytics is not only picking up pace in companies in one geographical region, but is a business trend followed worldwide. In the era of such penetration it can be said that HR Analytics is a trend in business all over the world, which aids in making business decisions concerning HR.

This shows that there is an increasing realization regarding human capital as an organizational asset.

### **HR Analytics and Employee Experience**

In recent times, research on the topic of human resource analytics has shifted toward investigating how HRA helps with enhancing employees' experience and engagement at work. Contrary to previous trends when HR analytics concentrated on efficient administrative activities for the sake of better business results, modern HR analytics puts emphasis on employees themselves, considering their needs, desires, and concerns. Besides making organizations run better, HRA strives to increase employee motivation, satisfaction, engagement, and welfare.

HR Analytics makes it possible for organizations to gather information about employees by means of surveys, interviews, evaluations, and other kinds of data collected during work. By examining this information, managers will be able to find out what affects employee morale, motivation, and job satisfaction as well as what employees' experiences are like in general. For instance, with the help of sentiment analysis tools, HR department will be able to understand the nature of emotions employees experience because of their jobs.

Moreover, Human Resources Analytics is used for tailoring employee engagement programs by considering particular employee requirements and demands. As a result, businesses are capable of developing various strategies that can foster employee well-being, training programs, flex time schedules, as well as rewards aimed at improving employee motivation and retaining employees. Predictive analytics also allows for spotting employees at risk of being disengaged or leaving the organization.

In general, the increased implementation of Human Resource Analytics into employee experience management indicates a growing trend towards more human-oriented and evidence-based human resource management practices. Through analytics, organizations are able to create a more supportive and efficient work atmosphere.

## 2.4 Research Gaps

Systematic literature review brings to light several significant gaps that currently exist in the literature on HRA. One major gap is the weak relationship between HR Analytics and general business strategy formulation. Even though a large number of researchers highlight the advantages of applying analytics within HR, very few researchers focus on exploring the way HR Analytics can be effectively integrated into business strategy. Consequently, there is a lack of understanding about the extent to which HRA contributes to business success and competitiveness.

Another significant gap identified in the literature is related to the shortage of qualified personnel who will enable organizations to properly integrate HRA within their activities. In spite of the constant technological innovations in the area of analytics, the current literature lacks research that explores how the required analytical, technical, and strategic skills for HRA can be developed among HR specialists.

Moreover, lack of emphasis on the topics like ethics in relation to the usage of HR Analytics, data privacy issues, and data governance is mentioned by the author. With increasing importance of data-driven analytics for human resource management purposes and with increased involvement of Artificial Intelligence, issues pertaining to transparency, fairness, algorithmic biases, and data security have acquired great significance. Yet, the literature available lacks adequate guidance on setting up proper ethical norms and practices in the use of HR Analytics.

Another gap between theory and practice has been noted by the researcher. There has been an abundance of literature that deals with concepts, theories, and possibilities offered by HR Analytics; however, not many studies address the practical side of implementing these concepts.

The above research limitations suggest that future studies may require more research efforts on areas such as the application of theories, strategic integration, skills development, ethics, and responsible utilization of HR Analytics. Future research must ensure that HR Analytics helps organizations achieve their objectives both effectively and ethically.

## 2.5 Conclusion

The outcomes of the SLR show that Human Resource Analytics (HRA) <sup>21</sup> plays an important role in the Human Resource Management (HRM) in today's day and age. Gradually, the HR Analytics field has changed the concept of HRM and shifted the HRM paradigm from being an administrative and operational process to a strategically important practice. In this context, organizations are now leveraging analytics to improve their processes when it comes to hiring employees, managing performance and boosting efficiency. First, you'll see in this review that there are a lot of benefits that can be credited to HR Analytics. It can be used, specifically, to make more rational decisions and to enhance the performance of the organisation. Furthermore, this idea is thought to have a positive impact on talent management processes, and ultimately improve the employee experience within the company. Thanks to the analysis of large datasets, predictive modeling, and different types of technologies, organizations are capable of making evidence-based decisions in terms of HRM. However, there are still some hurdles in the introduction and implementation of HR analytics in organizations. Poor data quality, lack of employee skills, privacy, <sup>42</sup> algorithmic bias and the lack of strategic HR analytics are specific challenges that can have a negative impact on the performance of HR analytics and ultimately on the HR challenges that can be solved by HR analytics. Future research will therefore focus on the theoretical work and its practical implications, such as the potential application of HR Analytics in the real world <sup>35</sup> and how it can be implemented. The researchers can also research the impact of <sup>35</sup> new technologies such as Artificial Intelligence, Machine Learning, and predictive analytics on HR practices of the future.

## Research Methodology

### 3.1 Introduction

This research will focus on the evolution of Human Resource Analytics (HRA) within today's business environment. The relationship between HRA and how the use of HRA is transforming the traditional HRM approaches towards data-driven decisions-making will be examined. With the availability of increasing amounts of data on their workforce and advancements in analytics, companies are using HRA more and more to increase efficiency, performance, and strategize.

The current chapter discusses various research methodologies utilized to achieve the aims of this research project.

### 3.2 Research Design

A mixed-method research design will be used for the study of HRA. The two major methods included in the proposed research design are exploratory and descriptive approaches. The exploratory method will allow examining HR analytics from the point of view of its emerging ideas, technologies, trends, and issues based on the analysis of scientific works on the subject.

The use of the exploratory approach will enable achieving more thorough insights into the current state of development of HR analytics and its potential for further use by companies. Simultaneously, the descriptive approach will help in analyzing the application and implications of HRA on the basis of data obtained through interviews and surveys.

With the help of the descriptive approach, the study will consider the current state of affairs and practices related to HR analytics, their benefits, and potential risks. Therefore, it should be said that a mixed-method research design is necessary because of the fact that qualitative and quantitative approaches will be needed in order to analyze HRA.

Qualitative analysis will provide insights into the concept itself, trends associated with it, opinions of experts on it. On the other hand, the use of quantitative analysis is required in order to interpret data.

### 3.2.1 Research Objectives

The aim of this research paper is to examine how HRA has developed in modern organizations and the contributions of HRA to the improvement of the decision-making processes in HRM and finally, to enhance the overall performance of an organization. This research paper will also attempt to identify the essential techniques utilized by HRA and the various problems associated with the use of HRA in organizations.

### 3.3 Data Collection Methods

Data was gathered using both primary and secondary data collection techniques in order to achieve an all-around study that is reliable and valid. Primary data was obtained directly from the respondents using suitable research instruments, whereas secondary data was obtained from various sources such as books, journals, articles, websites, and published reports.

#### 3.3.1 Primary Data Collection

##### a. Surveys

A structured questionnaire was distributed to HR professionals and college grads with internship experience to gather quantitative data on the adoption, use, and perceptions of HRA.

The questionnaire included:

1. How familiar are you with Human Resource Analytics (HRA)?
2. Which stage best describes your organization's use of HR Analytics?
3. In which HR functions is HR Analytics used in your organization?
4. To what extent does HR Analytics influence decision-making in your organization?
5. Which tools are used for HR Analytics in your organization?
6. How has HR Analytics impacted organizational performance?
7. What are the key benefits of HR Analytics?
8. What challenges does your organization face in implementing HR Analytics?
9. How would you rate your organization's technological readiness for HR Analytics?
10. What do you think is the future scope of HR Analytics in organizations?

##### b. Semi-Structured Interviews

The interviews carried out with the Human Resource management experts helped gain insights into the growth of HRA within their respective organizations, how it was being used for making managerial decisions, and what difficulties were encountered while using it.

### 3.3.2 Secondary Data Collection

Secondary sources of data from various credible and relevant sources on Human Resource Analytics (HRA) have been used as the primary source of information. Journals, research articles, and papers on HR Analytics have been analyzed to gain knowledge on the theoretical background, development, application, and problems involved in HR Analytics. Various findings and perspectives regarding HR Analytics and related areas have been gained from these sources.

Apart from journals and other academic resources, industry reports published by various well-known firms like Deloitte, PwC, SHRM, and McKinsey have been included to obtain practical perspective on the development and use of HR Analytics, technology, industry practices, and future trends in terms of workforces. Industry reports helped in obtaining updated information about the application of analytics in organizational operations.

Cases of organizations applying HR Analytics in practice have been considered to gain practical knowledge on how HR Analytics is being applied to make organizational decisions about recruitment, employee engagement, workforce management, and other human resource issues.

## 3.4 Sampling Design

### 3.4.1 Sampling Method

A purposive sampling technique was adopted to select those respondents who were knowledgeable about the area of Human Resource Accounting (HRA) and also had practical experience with regard to it. Respondents having knowledge about HRA techniques and analytics-based HR systems were selected.

### 3.4.2 Sample Size

The size of the sample used in conducting the survey for collecting quantitative data was about 100-150 individuals. Furthermore, 15-25 people were purposively chosen for an interview to collect the qualitative data on the implementation of HRA practices.

### 3.4.3 Participant Profile

The research instruments were carefully designed to be accurate, clear and relevant to the study objectives. A survey questionnaire was pre-tested for clarity, consistency and reliability prior to administration. Further, in order to obtain in-depth information on how Human Resource Accounting (HRA) has changed over the years, the use of analytics tools and the obstacles in implementing data-driven HR practices, an interview guide comprising of open-ended questions was developed.

#### 3.4.4 Instrument Development

The research tools were carefully designed to ensure accuracy, clarity, and appropriateness to the research objectives. Pre testing was carried out in order to gauge consistency and clarity of the questionnaire used to gather data from the respondents before their use in the survey. In addition, an interview guide with open-ended questions was created to gather data on HRA development, the use of analytical tools, and challenges faced in implementing HRA.

### 3.5 Data Analysis Methods

#### 3.5.1 Qualitative Analysis

The semi-structured interview was used to gather qualitative data, which was analyzed using thematic analysis. This is a widely recognized qualitative method for finding patterns, meanings and interpretations in text data. Thematic analysis aided in finding the common themes and perceptions of the respondents on the topic of Human Resource Analytics (HRA). Systematic coding of the interviews was based on common perspectives, opinions, experiences, and organizational practices. Thematic analysis enabled the researchers to delve beyond the numerical data and understand more about real organisational practices in the implementation of HRA. The thematic analysis issues under discussion are as follows:

- Evolution and development of Human Resource Analytics
- The strategic role of analytics in organizational decision-making processes
- Bottlenecks of implementing HRA in organizations
- The future scope of HR analytics and emerging technologies

Thematic analysis facilitated the identification of important trends, perspectives, challenges, and opportunities for the advancement of HRA as a field and practice of decision-making. Through thematic analysis, it became possible to assess organizational experience, labor management, and HR departments' technological readiness.

#### 3.5.2 Quantitative Analysis

Structured questionnaire surveys were used for data collection, and the quantitative data were analyzed using descriptive and inferential statistical methods to provide meaningful and measurable insights into Human Resource Analytics (HRA). Through quantitative analysis the researcher was able to systematically analyse the data and look for patterns, measure relationships between the variables, and interpret the perceptions of the respondents with regard to the adoption and effectiveness of HR analytics in the organisations. Responses were first organized, coded and tabulated in Microsoft EXCEL to ensure accuracy and proper data management of the collected responses. Thereafter, SPSS (Statistical Package for the Social Sciences) was used for advanced statistical analysis and interpretation of the data. Demographic data on the respondents was summarized using descriptive statistical analysis, which included mean, percentage, frequency distribution, and graphical representation. Descriptive statistical

analysis was also used to analyze trends and patterns concerning awareness, adoption levels, organizational use, technological readiness, benefits, and challenges of HR Analytics. These strategies were useful for organizing the data that they collected and interpreting the data in a clear, systematic way. Besides descriptive statistics inferential statistics were used to examine relationships between the variables and test the research hypothesis. A cross tabulation analysis was performed to analyse the differences between the various groups of participants to understand whether there are differences in opinion, in HR practices, or in the extent to which HR analytics are implemented. In addition, the correlation analysis was used to investigate the relationship between Human Resource Analytics and organisational performance. Internal consistency and reliability of the questionnaire items were also tested in SPSS through reliability analysis which employed the Cronbach's Alpha. The quantitative analysis techniques were useful in obtaining objective results and gave statistical backing to understanding the effect and significance of HR analytics in the contemporary organization. Overall, the quantitative method has played a significant role in the study of the level of HR analytics adoption, HR analytics impact and HR analytics implementation challenges in current HR practices.

### 3.5.3 Reliability and Validity Testing

Validity and reliability testing have been done to ascertain that the research tool used in the study is accurate and consistent with what it was supposed to measure. It is a very important aspect of conducting research as it helps to determine the dependability of the data collected and whether the questionnaire was an effective tool for measuring the research objectives of HRA.

#### Reliability Testing

The reliability of a research instrument means how consistent or stable it is in measuring variables that are measured by the research instruments. To conduct the reliability test of the consistency of the questionnaire in measuring the variables in the research, reliability analysis using Cronbach's Alpha in SPSS (Statistical Package for the Social Sciences) was carried out.

There were questions about the awareness of HR analytics, organizational adoption, organizational technology readiness, influencing decision making, and organizational impact in the questionnaire. Before carrying out the final questionnaire, pilot testing was done in order to check ambiguities, clarity of questions, and consistency in answering.

It was proven through the reliability test that there was an acceptable consistency in the questionnaire, which means that the research instrument was appropriate to be used to collect data in this study.

#### Validity Testing

Validity can be described as the degree to which the research tool accurately reflects the intended concepts and objectives of the study. To achieve content validity for the questionnaire, there was a thorough examination of various academic materials on Human Resource Analytics as well as industry reports and previous studies.

This helped the researcher design questions that matched the research objectives and addressed significant areas including awareness, stages of adoption, applications, organizational implications, benefits, issues faced, and the future scope of HR analytics. The process of developing the research

tool also involved taking into consideration expert advice and academic feedback to ensure that questions are appropriate.

Moreover, pilot testing aided in enhancing the face validity of the questionnaire by ensuring the questions are clear, relevant, and will be able to obtain valid information from respondents.

### 3.6 Ethical concerns

Appropriate ethical considerations were kept in mind while conducting the research process so as to ensure the safety of the participants' rights and privacy. Since the current research project entailed collecting information on organizations regarding their practices and perceptions related to HRA, ethical considerations were taken into account during the process of collecting, analyzing, and interpreting data.

Prior to the collection of data, participants were made aware of the purpose of the study, its objective, and nature. Informed consent was taken from all the respondents in order to ensure voluntary participation in the research process. The participants were informed that their answers would be used only for educational purposes.

Respondents' confidentiality and anonymity were ensured throughout the research process. No personal and organizational data was disclosed to anyone during the process. The data was safely managed and was used only for research-related purposes.

The participation of the subjects in this study was entirely based on their willingness, and at no point during the process were they forced or coerced in any way to continue participating in the survey or interview process. There was no false or misleading information given to them throughout the research process.

Furthermore, the study provided for the principles of objectivity, truthfulness, and integrity in data analysis and presentation of results. The researcher made sure not to manipulate any part of the data collected in order to protect the credibility of the research itself.

### 3.6 Limitations

Nevertheless, despite the detailed research design and implementation of a logical process of collecting data, some limitations can exist. They have to be taken into account while evaluating the outcomes of this research.

Firstly, the small number of respondents used during this research is the key limitation of the work. The research relied on the opinions and views of students, HR specialists, and people knowledgeable about the topic of HR practices, who made up the sample size. Thus, the results of this research do not necessarily reflect the opinion of all companies or organizations.

The second limitation associated with this study is related to the way of choosing respondents for the survey. As the sample was chosen through purposive and convenience sampling methods, the obtained results may be biased due to individual experiences of respondents.

Moreover, the research was limited in terms of time and other resources that could be invested in collecting and analyzing more data. Because of a lack of time, the study had to be conducted on a

relatively small scale without performing thorough case studies of organizations from different industries.

Another limitation is associated with the dynamic nature of Human Resource Analytics, which constantly changes with the development of technology and business processes and with the emergence of new HR management technologies and analytics instruments.

Finally, there is a possible limitation due to varying levels of HR analytics awareness of respondents. Some respondents had very little knowledge of the issues related to HR analytics, thus providing insufficient answers.

In conclusion, the research largely concentrated on perceptions and survey-based data. Due to the fact that organizational performance and HR analytics efficiency differ between industries and organizational forms, the results obtained from the research may have limited applicability.

Notwithstanding the above weaknesses, this paper gives important information regarding the development, utilization, problems, and significance of HR Analytics.

#### 4.1 Introduction to the Analysis

Chapter Five provides an elaborate discussion of the main data gathered regarding the development and significance of HR analytics in contemporary businesses.

Whereas previous chapters have explored the background information concerning the issue along with reviewing the existing literature, this part is devoted to empirical findings obtained through the results of surveys. The purpose of conducting such analysis is to identify current levels of awareness, implementation, usage, advantages and disadvantages of HR analytics.

By performing the analysis, it becomes possible to explore the problem at hand and understand how exactly HR analytics is used in practice.

#### 4.2 Data Collection Overview

For collecting data, structured questionnaires were prepared through Google forms. The reason for choosing such a method is the convenience to collect the feedback from respondents of varying educational and professional backgrounds at once. In all, there were approximately 20 valid responses that came from students, interns, and even early-career professionals with an elementary level of knowledge in Human Resources management and Human Resource Analytics. Hence, the respondents belong to the category of people who practice Human Resource activities or have a basic knowledge about Human Resource Management System and Human Resource Analytics.

The questionnaire was specially crafted to gather both numerical as well as non-numerical information on Human Resource Analytics. It emphasized on measuring the awareness and proficiency in HR analytics, implementation status, application areas, tool and technology usage, organizational effects, advantages, challenges in implementation, technological capability, and future prospects of HR analytics.

Responses collected were helpful for understanding organizational processes, viewpoints, and new trends regarding Human Resource Analytics. Application of structured questions ensured uniformity in the responses and aided in the proper analysis of the data using statistics. Despite being **65** small sample size, responses collected were important in gaining insights about the increasing **significance of HR analytics in the modern corporate world.**

### 4.3 Stage of HR Analytics Adoption

The level of maturity is evident in how different organizations have embraced human resource analytics. It was found that quite a lot of organizations have already started implementing predictive analytics. In other words, organizations have begun moving toward predicting trends within the workforce and making decisions based on such analytics. On the other hand, some organizations are still stuck with descriptive analytics, which implies that they are mostly engaged in simple reporting and analysis of historical data. Also, it should be mentioned that only a small share of organizations use prescriptive analytics, showing that more advanced analytical solutions for decision-making have been implemented. Finally, a couple of companies are completely free from HR analytics.

#### 4.3.1 Functional Areas of Applications

HR analytics is utilized in different HR activities, with the greatest application found in recruitment and selection, performance management, employee retention, training and development, and workforce planning. Of these HR activities, recruitment and selection can be considered to have the largest application of HR analytics, implying that businesses are putting more focus on making use of analytics in their recruitment process.

Such a trend can be explained by the growing importance of analytics in the decision-making process in recruiting the right candidate for the job.

#### 4.3.2 Tools and Technologies Used

Microsoft Excel and SPSS (Statistical Package for the Social Sciences) software packages were employed to arrange, analyze, and interpret the collected data. Microsoft Excel software was predominantly used in the arrangement, coding, table preparation, and preparation of graphical representations of the survey answers. Additionally, Microsoft Excel helped in systematically arranging the collected data for statistical analysis.

SPSS software was used for conducting quantitative analysis and interpretation of the survey answers. SPSS software was useful for descriptive statistics analysis, cross-tabulation, correlation analysis, reliability analysis, and hypothesis testing. With the use of SPSS software aided in obtaining reliable statistical results, and also in interpreting the relation between Human Resource Analytics and organizational performance.

### 4.3.3 Reliability Analysis

A reliability test was employed in order to investigate the level of internal consistency and reliability of the questionnaire utilized for gathering the primary data regarding HRA. Reliability is a very important criterion in conducting research because it measures whether the research tool used in the study is capable of consistently measuring the variables under investigation. The reliability test was conducted by computing Cronbach's Alpha using SPSS.

The reliability test was done by employing the questionnaire containing questions on awareness, adoption, organizational use, readiness, decision-making, and future opportunities of HR analytics. The resulting Cronbach's Alpha coefficient was 0.65. This shows that there is a satisfactory level of reliability. Even if the reliability coefficient is not very high, one can say that there is a sufficient level of reliability since there is an acceptable degree of internal consistency among the items.

The value of reliability shows that there is an adequate relationship between the selected variables that, altogether, are able to define the wider idea of HR analytics and its importance for organizations. Also, this value shows that the data collected from participants could be used in further analysis because they were quite reliable.

Also, it should be mentioned that this value can be impacted by the relatively small number of participants and the fact that their experience regarding HR analytics concepts is different. Given the fact that the participants had various educational and professional backgrounds, this could influence their understanding of some questions.

Thus, despite some possible flaws, this research is characterized by an appropriate reliability value, and it can be considered relevant.

Reliability Statistics	Value
Cronbach's Alpha	0.65
Number of Items	5

The results obtained from the analysis of reliability increase the credibility of the tool used for data collection, in addition to the validity of the analysis that follows.

#### 4.3.4 Hypothesis Testing

Testing of the research hypothesis has been done in order to find out if there is any statistically significant association between the implementation of Human Resource Analytics and organizational performance. That is, this statistical analysis was required to establish whether or not the use of HR analytics in an organization has an impact on its effectiveness, decision making and the productivity of its employees. To this end, a correlation analysis was done using SPSS. The information related to the respondents' opinion about HR analytics implementation impact on organizational performance was used to calculate the correlation coefficient. This calculation gave a value of  $r = 0.621$ . This means that there is a moderate and positive correlation between HR analytics implementation and organizational performance, as indicated by the positive score. In general, moderate positive correlation suggests that companies with HR analytics integration will likely benefit in other aspects of organizational HR functions such as effective recruitment process, employee retention, performance management and workforce planning. Furthermore, p value received was 0.005, which is significantly less than the significance level of 0.05. Therefore, the results obtained confirm the presence of the statistically significant relationship between HR analytics and organizational performance – p is lower than the level of significance. The data presented in the statistical analysis reveals that an organization that adopts the use of HR analytics will have a more data-driven decision-making process. By leveraging HR analytics, an organization can gain insight into the trends of the workforce, evaluate its employees' performance, predict future hiring needs, and optimize HR strategies. The findings also corroborate the available knowledge in the field, which indicates that HR analytics is no longer a traditional management method, but a strategic management approach. There is an increasing awareness among businesses regarding the need to use the employee information for gaining a competitive edge. There are, however, some factors that could influence the impact that HR analytics has on performance improvement. Variables such as size of the organization, technological readiness, access to experts, and adoption of analytics into the HR practices are some of those that come to mind.

Variables	Correlation (R)	P-VALUE	Result
HRA & Organizational Performance	0.621	0.005	Significant

#### Hypothesis Result

- **H<sub>0</sub> (Null Hypothesis):** HR Analytics has no significant impact on organizational performance.
- **H<sub>1</sub> (Alternative Hypothesis):** HR Analytics has a significant impact on organizational performance.

As the calculated p-value is smaller than the significance level of 0.05, the null hypothesis can be rejected and, as a result, the alternative hypothesis accepted. It can, therefore, be concluded that there is a statistically significant positive relationship between HR Analytics and organizational performance. Draw inferences from a Hypothesis Test. The outcome of the tests carried out confirms the importance of HR analytics to the modern business.

#### 4.3.5 Thematic Analysis of Interview Responses

Thematic analysis of the responses given in the interviews resulted in a number of important themes and insights concerning the use and value of Human Resource Analytics (HRA) in organisations. The answers were classified into main themes by similarity in opinions, experiences and organisational practices.

##### Theme 1: Evolution of Human Resource Analytics (HRA)

According to the results of the interviews, there has been a dramatic change in Human Resource Analytics through the years. Initially, Human Resource functions were mainly involved in performing various administrative tasks, including attendance, payroll, recruiting, and personnel records management. The majority of the interviewees felt that the traditional HR processes were subjective and based on intuition and decision making. Companies began employing data based Human Resources with the help of technology advancements and the growing use of computers. Organizations have been able to collect and analyze employee data thanks to HRIS, cloud solutions and analytics tools, according to the interviewees. Some of the interviewees stated that HR analytic has enabled HR to become a strategic partner in the organizations. According to interviewees, HR analytics are used to predict employee actions, look out for labour market patterns, engage employees, and enhance the overall performance of the business. It needs to be noted that the majority of the interviewees emphasized that the global health crisis that has been triggered by COVID-19 pushed HR analytics further into use, since companies have had to rely on accurate data about remote

employees. Overall, the results indicated that HR analytics has been established as a strategic management tool.

### **Theme 2: Strategic Role of HR Analytics**

From the conducted interviews, it can be concluded that HR analytics holds great importance from a strategic perspective for most organizations. It is generally believed that HR analytics helps organizations to make better decisions in matters relating to hiring, performance appraisal, retaining talent, and workforce planning. HR practitioners also argued that the use of HR analytics helps them recognize patterns in employee performance, absences, turnover, and training programs' success.

Some of the interviewees mentioned that the HR analytics process helps management identify good performers along with the factors influencing productivity and employee job satisfaction. Interviewees also pointed out that HR analytics also helps organizations predict their future needs and plan for future workforce problems in terms of skill shortages and employee turnover. Data-driven HR practices can also help avoid biases and achieve more transparent operations.

Another critical aspect that emerged through the interviews is that of the role played by HR analytics in supporting organizational strategies and ensuring alignment between HR objectives and business objectives. It was stated that an organization can utilize HR analytics to assess the efficacy of its HR strategies and determine the extent to which they are contributing to its success.

This finding reflects the changing nature of HR analytics from being used for HR operations only to playing a strategic role as well.

### **Theme 3: Challenges in Implementing HR Analytics**

Despite recognizing the advantages of HR analytics, there were a number of drawbacks that people cited in relation to implementing HR analytics. The main drawback mentioned by many was the deficiency of skills on the part of HR professionals. Many people argued that employees working in the traditional HR positions may not be well versed with the use of analytical tools.

Privacy and confidentiality of the data have also been identified as important considerations in this respect. Employees revealed that employers have large quantities of personal and performance-related data of employees, which leads to potential threats relating to data security and ethical use of such data. Some respondents have raised their concerns with regard to the compliance with relevant legislation as well as gaining the trust of the employees.

It has also been identified by the respondents as an important issue that many employers face difficulties in the acceptance of HR analytics because of the

reluctance to accept change by employees. Respondents argued that the use of HR analytics systems is feared by some people due to technological issues or concerns about being replaced at work.

Furthermore, respondents identified problems concerning data quality and integration. From what emerged from the interviewees, it was evident that inaccurate and incomplete data would hinder the effectiveness of analysis and influence decision-making. Generally speaking, the results indicate that even if HR analytics presents many strengths, several challenges emerge in its implementation.

#### **Theme 4: Future Scope and Opportunities of HR Analytics**

From the interviews, it was clear that there is optimism about the future of HR analytics. It was found that the majority of the interviewees had confidence in the fact that the incorporation of advanced technology such as AI, ML, and automation, would give HR analytics a boost in significance within the field of HRM.

Most of the interviewees were confident that analytics in HR would be able to predict trends in the future as well. These could include predictions on employee turnover rates, training needs of employees, employee engagement, workforce planning, etc. Another important aspect that emerged from the interviews was that analytics would play an essential role in the domain of diversity and inclusion in organizations.

HR analytics has been pointed out by several of the respondents as being increasingly important to organizational strategies, including talent management and planning. Based on the results of the interviews, businesses that successfully implement HR analytics are bound to be successful due to higher levels of employee productivity, efficiency, and retention. Another trend mentioned is the growing importance of analytical skills in HR professionals. Future professionals would therefore be required to possess both analytical and HR-related skills.

The research clearly reveals that HR analytics has promising future prospects and that it is expected to become an inseparable part of organizational activities within the next few years.

#### 4.3.6 Impact on Organizational Performance

A majority of the people sampled revealed that the implementation of HR analytics has helped the organization improve moderately to significantly in organizational performance. From the results, it can be concluded that the practice of HR analytics has helped improve several aspects, which include decision-making, workforce planning, HR efficiency, and improved employee performance. Using data-driven information, organizations have been able to make sound decisions, determine future needs, allocate resources better, and ensure improved productivity.

Improved decision-making was noted to be among the major impacts resulting from the application of analytics in HR activities. In this case, HR managers are able to base their decisions on facts rather than assumptions. On the other hand, workforce planning involves forecasting needs and solving possible skill shortages in the future.

Efficiency in operations and productivity by employees are some of the additional benefits that can be achieved from the use of analytics within organizations.

Only a few individuals noted that there had been no organizational changes because of the use of HR analytics. In this case, it can be argued that the implementation of such practices within organizations depends on a variety of factors, such as proper implementation, organizational readiness, data accuracy, and management commitment

#### 4.3.7 Key Benefits Identified

The most common advantages of HR analytics mentioned in the literature include better and faster decision-making, higher productivity, better workforce planning, greater efficiency, and lower costs. These results indicate that HR analytics is increasingly recognized as a tool for making evidence-based decisions and enhancing organizational performance. Additionally, these results support the notion that HR analytics is changing the nature of the HR department, moving it away from being just an administrative function to becoming a strategic one.

#### 4.3.7 Challenges in Implementation

However, despite the wide range of benefits that have been offered by the use of HR analytics, a number of issues associated with the implementation of HR analytics were pointed out. First, there is a shortage of skilled professionals in the field of HR analytics. In addition to that, other barriers include the costly nature of implementation of the technology, organizational resistance, low quality of data, and issues related to data privacy and ethics. Out of all the barriers mentioned

above, the shortage of skilled professionals appears to be the most important one, stressing the gap between technological advances and skilled employees.

#### **4.4 Technological Readiness**

The reactions on the level of technology readiness ranged from low to very high. Where some firms were prepared to implement HR analytics, there were others that did not have the required technology. The difference indicates that the uptake of HR analytics is not uniform and it is likely to be influenced by factors such as company size, resources, and strategic priorities.

#### **4.5 Future Outlook of HR Analytics**

Most respondents had an optimistic view, showing that the future of HR analytics is very promising indeed. This can be attributed to the growing importance that people are beginning to see in HR analytics.

#### **4.6 Key Findings**

From the analysis of survey results and interviews, it has become evident that several key insights were identified on how HR analytics is implemented and why HR analytics holds importance in today's organizations. It can be noted from the study that there is a continuous rise in the awareness level about HR analytics among students and professionals. At the same time, the awareness level cannot be termed as equal for all the individuals involved as some people have very little knowledge about analytics techniques.

In addition, the research results show that many companies operate at the level of predictive analytics. Companies have been gradually shifting from descriptive analysis and are now using analytics to forecast the future trends and behaviors of their employees. However, the application of prescriptive analytics is still somewhat limited, indicating that many organizations are still in the early stages of analytics maturity.

It has been noted that the function of recruitment and selection is considered the most significant functional area in which the HR analytics process takes place. The organizations have realized the importance of utilizing HR analytics to help them make sound hiring decisions and select candidates who would be appropriate for their companies. Apart from recruitment and selection, HR analytics can also be utilized for other purposes.

In addition, it is important to mention that organizations continue to depend on basic software like Microsoft Excel for carrying out HR analytics. Some organizations use HRMS systems, but the use of artificial intelligence and machine learning in organizations is still quite limited. This can be seen as one of the results of lower technological preparedness of organizations.

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According to the results of this study, HR analytics has a positive effect on organizational performance. It was found that HR analytics plays an important role in the improvement of decision-making, workforce planning, effectiveness of HR activities, and productivity of employees. It is important to mention that statistical analysis performed within this study has demonstrated a significant positive correlation between HR analytics and organizational performance.

Although HR analytics is widely used in modern organizations, there are still many barriers preventing its implementation and utilization. The most common barriers include a shortage of skilled workers, high costs for implementing analytics tools, technological barriers, organizational barriers, and data privacy and security concerns. Based on the results of this study, organizations should work on improving their technology capabilities.

The last finding of the study is the very promising future that is anticipated by HR analytics. Respondents anticipate the continued growth and importance of HR analytics due to the increasing incorporation of artificial intelligence and automation in organizational operations. It can be assumed from the results of this study that in the future, HR analytics will play a key role in modern organizational activities.

#### 4.7 Recommendations

From the analysis results, there are various implications that can be used in ensuring that HR analytics is implemented successfully within organizations. It is necessary to invest in the training of HR practitioners in order to improve their capacity to make use of data to come up with proper decisions. The utilization of technology to improve HR analysis must also be encouraged. In addition, it is important to improve the quality of data used to facilitate HR analysis and develop appropriate management techniques. Developing a data-driven culture must also be encouraged since this will encourage people within the organization to utilize analytics during decision-making.

#### 4.8 Limitations of the Study

On the basis of findings, there are some recommendations that may be suggested to implement HR analytics successfully in organizations. Firstly, organizations need to focus on providing training and development opportunities to the existing workforce to increase their skills and knowledge in the area of HR analytics. Secondly, more effort should be made in terms of using modern technologies for supporting the process of HR analysis. Thirdly, data quality and management should be improved in order to have an opportunity to get valuable information from analysis. Creating a

culture within the organization that will promote the use of HR analytics should be regarded as an essential step too, Moreover, ethical concerns related to data privacy and security must be taken into account.

## Chapter 5

### Conclusion

In this research, the concept of HR analytics has been analyzed extensively in relation to its evolution and significance in today's organizations.

The research tried to examine how the HR analytics is assisting to shift the traditional HR practices and operations to a more data-driven approach and analysis and how it has impacted on human resource activities such as recruitment, performance management, employee retention, employee workforce planning etc. Additionally, the study also tried to analyze the knowledge about, level of adoption, benefits, and challenges of HR analytics amongst the respondents.

<sup>48</sup> Based on the results obtained, it can be concluded that HR analytics is becoming an important instrument for changing decisions-making within organizations. Companies no longer rely on gut feelings and intuition in relation to HR decisions, but rather utilize a data-driven approach in order to make their decision-making processes more efficient and accurate. It was found out that the application of HR analytics occurs most frequently within recruitment and performance management processes in order to facilitate recruitment, optimize workforces, and evaluate performance.

Nevertheless, there is an observation that the usage of HR analytics is at the early stages of development within many companies. Although several firms have already made their way up to the predictive level of analytics, a large number of companies is still using the descriptive method along with simple applications like Excel. The underutilization of the advanced technology like AI and machine learning indicates that HR analytics are not being used at their full capacity by the organizations.

Lack of analytical skills is one of the main challenges highlighted by the research. Moving to a data-driven HR department means that employees have to combine domain knowledge and analytical capability, which is currently lacking in many organizations. Furthermore, there have been various other factors that continue to make it difficult for companies to effectively implement HR analytics; some of

which include poor quality data, high implementation costs, and resistance towards change as well as ethical concerns with data privacy. This underscores the importance for companies to have a strategy for implementing analytics. The other major result of this research paper is that, although HR Analytics makes the process of efficiency more efficient and lets the decision making more simpler, the uptake of HR Analytics is contingent on the ability to integrate the tool into organisational strategy along with the human mind. If too much data is used without considering the context, it may prevent HR analytics from being successful. HR Analytics can offer a lot of advantages and help an organization stand out in the competitive world of today's business. However, for HR analytics to be used by an organization effectively, there needs to be a significant investment of technology, analytical skills and the factor of data governance and ethical concerns

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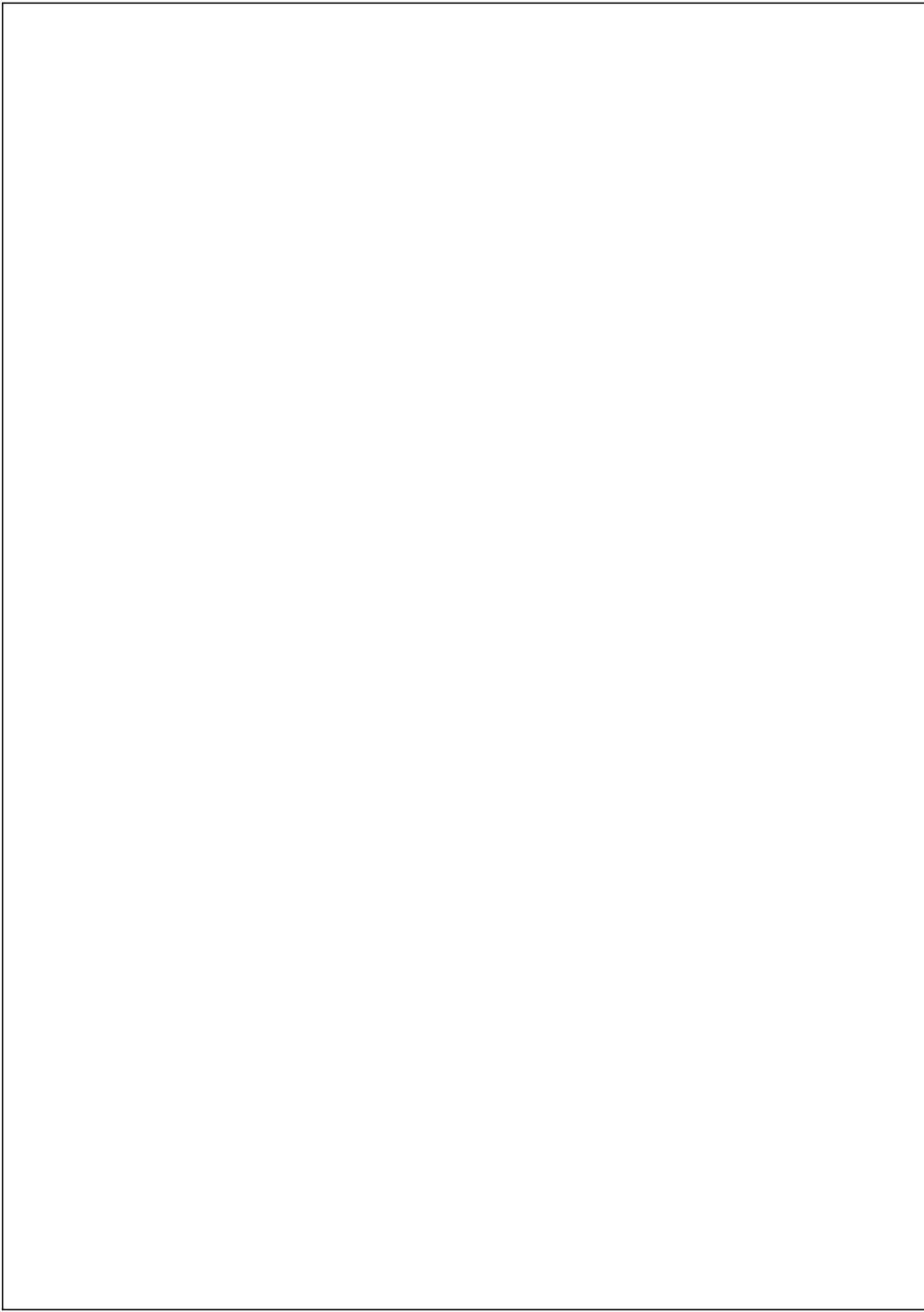
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