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# HR Analytics: Concept, Application, and Impact on Talent Management, Branding, and Challenges

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**Abstract**
**Purpose**: Making wiser decisions about employees to improve performance at the individual and/or organizational levels is the process of HR analytics. HR analytics is a method for determining the correlation between HR practices and organizational performance outcomes such as sales volume or customer satisfaction. Human Resource Analytics was established in 1978 by Jac Fitz-Enz, the pioneer of human capital strategic analysis and performance benchmarking. In this paper, the researcher wants to discuss the concept of HR analytics, its application, impact on talent management, branding, and challenges in its application.**Design/methodology/approach**: The researcher examines secondary data and conducts a thorough literature review to understand the concept and its application across industries and nations, as well as to identify any challenges encountered during deployment and any benefits perceived by various industry professionals.
**Findings**: The study's findings indicate that using HR analytics can help businesses build their brand and gain a competitive edge in today's fiercely competitive business environment while also enhancing workforce and employee productivity.**Originality/value**: This study has significant implications for both literature and HR analytics. Researchers will know more about the factors that contribute to and the mechanisms by which HR analytics improve organisational performance. The author's second claim is that having access to HR technology both facilitates and precedes HR analytics. Finally, concrete data from the literature demonstrates its influence on branding and organisational success.
**Keywords**: Human resource (HR) analytics, People analytics, Branding, Talent Management, Organizational performance.
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## 1. Introduction

The contemporary environment is becoming more complicated and unpredictable, even though business settings have always experienced constant change. There has been a shift in favor of new growth. But achieving growth is not always simple and clear. Markets fluctuate often, and competitors from all over the world move quickly to grasp opportunities. Nowadays, innovation happens more quickly. Additionally, consumer expectations are always shifting. The term "VUCA environment" refers to the volatile, unpredictable, complex, and ambiguous environment that businesses increasingly operate in. Globalization, technological advancements, the recession, as well as internal factors like the growing number of Millennials in the workforce, who bring unique behaviors and actions to labor relations and a holistic view of organizations' primary goals, are all having a significant impact on the business environment. These factors have varying degrees of impact on almost all industries (Stone and Deadrick, 2015). HR departments are increasingly important because they oversee aligning the performance of each employee with the goals and objectives of the organization. Bringing value to customers, investors, and society is now the main goal of the HR department rather than just administrative efficiency (Ulrich & Dulebohn, 2015). The emergence of new information technology has changed the workplace, and the usage of mobile devices is particularly crucial (Deloitte, 2014). As a result of this technology's revolution of hiring processes, training, analytics, and even our working routines, the distinction between work and play has become hazier. Due to the continual stream of information, communications, and messages that employees are exposed to online, it is necessary for them to modify their skills (Deloitte, 2015). Michelle Freiberg & Tina Kao (2008) also stated that every organization, regardless of location, has the problem of overcoming the challenge of keeping a steady supply of vital talent. Some of the difficulties facing the "next generation" workforce include the need to transmit knowledge from retiring baby boomers, a workforce that is more cross-generational and diverse, and the impending talent shortage. To assess the health of talent management and HR analytics strategies in firms, researchers and HR consultants have been working together.

### 1.1 Concept of Analytics

The analytics term is used imprecisely. Sometimes it is employed interchangeably with business intelligence. It is

 

useful to think of descriptive, predictive, and prescriptive analytics. With descriptive analytics, the objective is to describe what has occurred. With this view, reporting, OLAP, dashboards/scorecards, and data visualization are examples (Hugh J. Watson (2013). The term "online analytical processing" (OLAP) describes the mining and analysis of recent data from ongoing business operations. The primary goal of OLAP is to inform executives about their company's performance. Marketing, sales, HR management, finance, and budgeting are just some of the areas of business that can benefit from using OLAP dashboards for reporting, forecasting, and planning. Furthermore, this tool assists users in creating detailed charts, comprehensive reports, and ad hoc analyses. With available graphs, easy-to-understand pie, and bar graphs, etc., it is targeted at regular employees rather than just those holding high positions. The capacity to closely monitor the data and make future predictions should be a feature of HR analytics. Analytics evaluates why something occurs and how it affects other things (Erik van Vulpen, 2018). Analytics must demonstrate a cause-and-effect relationship between the findings they present and the organization's actual business problems to be effective. Analytics makes use of analysis as a tool to comprehend the data as depicted in Figure 1.


Figure 1 From opinion to insights - the role of analytics
Source: Erik van vulpen (2018, June 11)

**1.2 Concept of HR Analytics**

Thomas H. Davenport, Jeanne Harris, and Jeremy Shapiro (2010) observe that the integration of individual performance data with HR process indicators, such as cost and time, and outcome measurements, like as engagement and retention, is known as analytical HR. The definition of HR analytics given by Marler, J. H., and Boudreau, J. W. is "HR practice enabled by information technology that uses descriptive, visual, and statistical analyses of data related to HR processes, human capital, organizational performance, and external economic benchmarks to establish business impact and enable data-driven decision-making" (2017). According to Coron (2021), metrics and employee data are employed in evidence-based human resource management to increase knowledge and enhance human resource decisions. The term "HR analytics" refers to a method for methodically reporting on a variety of HR indicators, such as "time to recruit," "turnover," "remuneration," and "employee engagement." Reporting frequently includes benchmarking, even though this is definitely a component of HR analytics. According to Boudreau and Ramstad (2006), HR analytics is a method for comprehending the causal relationship between HR practices and organizational performance outcomes like sales volume and/or customer satisfaction. Additionally, it serves as a legitimate, genuine, and unwavering foundation for human capital decisions that have the potential to influence the organization. Lawler, Levenson, and Boudreau (2004) have taken a similar stance regarding the definition of HR analytics in the workplace. Bassi et al.'s (2010) basic definition is that HR analytics is the process of making better decisions about people to boost performance at the individual and/or organizational levels. HR analytics, according to the HRAA (HR Analytics Association), uses descriptive, visual, and statistical evaluations of HR processes and human resources, organizational performance, and external economic benchmarks to demonstrate the impact on the business and make data-driven decisions (Marler, J. H., & Boudreau, J. W., 2017).

HR analytics, also known as people analytics, is not a novel concept. In various forms, HR analytics and data analytics in general have long been commonplace in businesses. A desire to challenge the status quo spawned the field of HR analytics. Even though some businesses have used metrics and tools like Human Resource Accounting

 

and Score Cards, they are not enough to give businesses a strategic advantage when it comes to human capital. The activities and outcomes of human resources as well as their performance are not being measured. According to an article published in 2004 by Workforce Management (previously Personnel Journal), Jac Fitz-enz made a bold, anti-establishment proposal in 1978. It is important to measure the effects of human resources operations on the bottom line. According to Caudron (2004), people's mentality was one of indifference, disagreement, and doubt. For many organizations, measuring human resource activities and their impact did not produce favorable outcomes or prospects, but it did. Dr. Jac Fitzenz, the father of human capital strategic analysis and human performance benchmarking, founded Human Resource Analytics in 1978. He emphasized the significance of developing metrics that could assess the impact of HR operations on an organization's bottom line (Jain and Nagar, 2015). HR analytics is a subfield of analytics that deals with applying analytical processes to an organization's human resources department to increase employee performance and maximize return on investment (ROI). The goal of HR analytics is to create strategies based on information that can be used to create a link between HR activities and business outcomes (Frost & Sullivan 2017). The evolution of HR management is briefly listed in Table 1.

**Table 1. Evolution of HRM**

| Timeframe/Stages | Evolution in HRM - Description |
|---|---|
| Prior to 1940 | Manual payroll and record-keeping. |
| 1940 -1960 | The government and military both need skill inventories and employment classifications, and federal tax laws have been passed. |
| 1960 -1970 | Employment laws increase the need for reporting civil rights act (CRA)1964, age discrimination in employment act (ADEA) 1967.<br>Tracking of turnover and administrative expenditures.<br>Higher levels of government regulations like employee retirement income security act (ERISA), and occupational safety and health act (OSHA).<br>Increased employee reporting since labour expenditures have gone up.<br>Growing HR data requirements need streamlining and removing redundant data. |
| 1980-1990 | Globalization and growth result in the integration of all systems (accounting, HR, finance, manufacturing).<br>HR planning and usage analysis. |
| 1990-2010 | In the European Union, the Privacy directive is being used to empower employees and transfer "ownership" of employee data.<br>Become a strategic partner with an external emphasis rather than a paper processor for the company. |
| Source: R. D. Johnson, K. M. Lukaszewski, and D. L. Stone, (2016) | |

**Types of Analytics**

Descriptive, diagnostic, predictive, and prescriptive analytics are the four different categories of HR analytics. Given that it gathers information on the past to comprehend patterns and behaviors, descriptive analytics is the technology that is most frequently used. Diagnostic analytics identifies the underlying reasons for a trend or scenario to better and deeper understand it; predictive analytics is a useful tool to have for improved situation prediction; and prescriptive analytics aids in prescribing remedies to address issues and improve the position (see Figure 2).

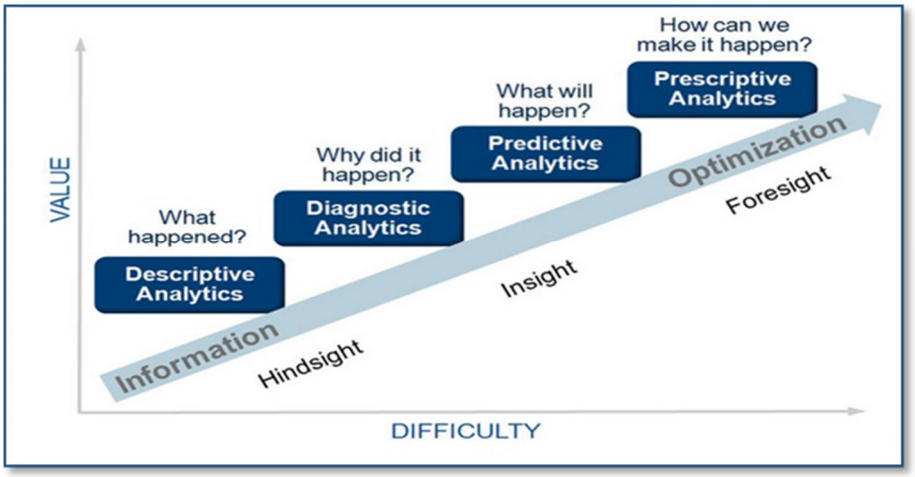


Figure 2. Types of Analytics
Source: https://blog.neocasesoftware.com/4-types-analytics-mean-hr

 

### 1.4.1 Descriptive Analytics

The information in the data can alert decision-makers to prospective problems or opportunities. Asking questions about the variables and any interactions between them will lead to a solid descriptive analysis. The variety of items shown, and the number of conference participants have a greater impact on the sales revenue that can be learned about.

### 1.4.2 Diagnostic Analytics

An analyst will be curious to understand more about the circumstances behind this operation. To determine the relationships between the data, the analyst employs increasingly complex statistical methods. For instance, the diagnostic analysis may be useful in figuring out why certain salesmen succeed while others fail. This information might be used to improve training, coach salespeople, and employ new representatives.

### 1.4.3 Predictive Analytics

Predictive analytics, a subset of advanced analytics that makes use of statistical modeling, data mining, and machine learning, aims to forecast future occurrences. Businesses employ predictive analytics to spot data patterns and differentiate between opportunities and risks. Determine which clients are most likely to cease using a product or service, for instance. Give out promotional materials to clients who are most likely to make a purchase. Improve customer service by being well-prepared.

### 1.4.4 Prescriptive Analytics

Prescriptive analytics uses complex algorithms to prescribe the best course of action based on projected data and the effects of those actions. A customized action plan for each sales executive may be created based on these suggestions. When it comes to completing sales, packaging items for specific consumers, and attending training sessions, probability models that forecast the possibility of closing a contract and which training sessions should be attended are critical.

While predictive and prescriptive analytics are more sophisticated and developed using artificial intelligence (AI), they provide insight (the action or result of seeing something basic or his intuitive sense, as well as the ability to see or penetrate a situation) data. Descriptive and diagnostic analytics is the traditional and most common type of analytics, and it provides hindsight (the ability to understand something only after it has occurred). Further, the tools and the purpose of each of the type of analytics is depicted in the Table 2.

**Table 2. HR Analytics Continuum**

| Low Value----------High Value | | | |
|---|---|---|---|
| | Operational | Strategic | Transformational |
| Descriptive (What Happened?) | Ad-hoc HR reports and Dashboards, trends, anomalies | | |
| Diagnostic (Why did it happen?) | Correlations, Root-cause analysis | | |
| Predictive (What will happen?) | | Forecasting, Optimization, What if analysis | |
| Prescriptive (Solution oriented) | | | Recommended Actions or Strategies |

*Source: Sharron Malaver (2020)*

In descriptive analytics, fundamental elements like ad hoc reports and dashboards are employed, while diagnostic analytics favors correlations and root-cause analysis. Predictive analytics uses forecasting and optimization methods, while prescriptive analytics, on the other hand, provides a remedy to fix the problem or enhance the condition. According to Sharron Malaver (2020) 70% of firms that have deployed HR analytics employ only diagnostic and descriptive analytics (such as ad hoc reports, trends on the dashboard, anomalies, etc.) to find hidden insights and track down the reasons. Predictive analysis, which includes forecasting and optimization tools, what-if analyses, and prescriptive analytics, is significantly preferred by 30% of HR analytics users when looking for new strategies to curtail undesirable conduct and maintain desirable behavior. According to Reddy, P. R., and Lakshmikeerthi, P. (2017), each of these process levels—descriptive, diagnostic, predictive, and prescriptive—has its own benefits and value. However, the more an organization moves from descriptive to prescriptive, the greater the added value to the business and its overall performance.

To sum up, a range of HR scenarios, including operational intelligence, strategic intelligence, and transformative intelligence, apply analytics as a result. When combined with Business Intelligence (BI) software, HR analytical solutions have the potential to boost the value of the company. In addition, Jones (2014) defines HR analytics as a tool that provides managers with the knowledge, they need to make choices that will lower high employee turnover, raise the calibre of new hires, forecast organizational effectiveness, and maintain the competitiveness of their companies. In a nutshell, HR analytics is a discipline in human resource management that

 

uses statistical, graphical, and descriptive, predictive, and prescriptive analyses of data on organizational performance, human capital, and external economic benchmarks to determine business impact and support data-driven decision-making.

## 2. Review of Literature

Research papers on HR analytics with respect to concept, application and impact on talent management, branding, and challenges are reviewed as follows:

### 2.1 HRA concept and the aims.

Huselid (2018) points out that despite its growing popularity, HR analytics is not a completely new idea. Ideas and uses of information and research in management are certain as analysts and experts seek to understand how to transform information into noteworthy units of knowledge and inspire work towards hierarchical execution. (Chierici et al., 2019). As a result, this interest has spread to other management areas, such as human resource management (HRM), as evidenced by the growing number of HR departments implementing personnel analytics to improve decision-making (McCartney et al. al., 2020). According to Shivam Tomar and Mamta Gaur (2020), HR analytics is a tool that consists of statistical techniques that enable data collection, analysis, measurement and prediction. The introduction of HR analytics into the enterprise has made collecting, interpreting and measuring HR data an easy process. Researchers have used the terms Human Resource Analytics, Talent Analytics, People analytics, and Human Capital Analytics interchangeably to describe applications that use personnel data to improve decision-(Aral et al., 2012; Rasmussen and Ulrich, 2015; Angrave et al., 2016; Marler and Boudreau, 2017; McCartney et al., 2020). According to van den Heuvel and Bondarouk (2017), HR Analytics is the Systematic Identification and Quantification of Individual Business Drivers for better decision making, transformation of Human Resources related data, management, and analysis The use of analytical models and tools is known as human resource analysis (Kapoor, B. and Sherif, J., 2012), where the integration of HR and strategic business planning is central to the analytical process. Here, HR integration with the strategic business plan is the primary focus of the analytics process (Naula, S. 2015). In a similar vein, the procedure makes use of HR data to link HR policies and practices to business outcomes and, ultimately, to gain a deeper comprehension of the connections that exist between HRM and concepts like employee engagement, contentment, productivity, and performance (Reddy, P. R., & Lakshmikeerthi, P. 2017). Human Resource Analytics helps companies find solutions to problems and make informed decisions. As a result, HR analytics combines business and HR strategies to achieve competitive advantage (Bindu, 2016). The sub-HR functions have been measured by HR analytics in stages. Lochab, A., Kumar, S. and Tomar, H. (2018) state that data analytics is being used by businesses to improve decision accuracy and boost efficacy and efficiency. Data related to every aspect of employees in the organization should be carefully studied, evaluated, and analyzed to make suitable decisions about employees' challenges. With the use of HR analytics, which provides information based on organizational realities, middle managers and senior managers may be able to make better decisions (Madhavi Lakshmi & Siva Pratap, 2016; McIver and others 2018). Employees in organizations believe HRA (HR Analytics) is essential for the organization, according to George L. & Kamalanabhan T. J. (2016). Using analytical methods and HR data to guide corporate strategy and boost performance, HR analytics focuses on examining and enhancing aspects of human capital. Like how the finance department measures returns on investment, Boakye, A., and Lamptey, Y. A. (2020) provide doable approaches for assessing and managing human resource assets (ROI) (Zeidan, S., & Itani, N. 2020).

### 2.2 Determinants of HRA

It has been shown that significant factors that affect organizational size include analytical abilities. The use of analytics in small businesses was rare. When analytics technology is simple to use, people are more likely to adopt it. According to Dahlbom et al. (2020), three factors influence HR Analytics adoption: employees, the organization, and technology. Dahlbom et al. (2020) identify three aspects, one of which is "quality of data and IT infrastructure," as well as "human resource skills" and "organizational knowledge." Experts say that these aspects are still in their infancy and cause more problems than they should. Tina Peeters, Jaap Paauwe, and Karina Van De Voorde (2020) found that people analytics teams must provide essential components. There are four types of components that a team needs to be successful: management of stakeholders, products, enabler resources, and governance structures. There are sub-factors for each type of component, such as data and infrastructure, and support from senior management. A company can be successful by staying up to date on the most recent developments in HR analytics (Reena et al., 2019). A few researchers have evaluated HRA reception by emphasizing individual elements (Fernandez and Gallardo, 2020), and others have identified organizational factors such as organizational culture as critical to the success or failure of HRA and technology adoption. Mohtaramzadeh and others (2018) believe that an individual's beliefs and values are influenced by organizational culture. Sunny, Patrick, & Rob, (2019) also observe that technology adoption is influenced in unique ways by organizational culture. It is evident that most studies have not considered adoption barriers at the organizational level, as organizational culture exemplifies.

 

Organizational performance is impacted by technological advancement like HR analytics (Ahuja, 2014), which led to the digitalization of HR technology (Naik, Y.N., and Bisht, M., 2016). According to Dahlbom et al. (2019), the digitalization of human resource analytics in the HR department influences organizational effectiveness and the workplace, resulting in employee attitudes, behaviors, and trust, among other things. (Fabbri et al., 2019). According to Sousa et al. (2019), an organization must first reach a certain level of analytic maturity for analytics to fully support and benefit HRM.

Jiang et al. (2012) discovered that employee engagement is the single most important factor in individual performance by combining extensive people databases in accordance with data privacy regulations. Individual performance improves as engagement increases. Ammenwerth, E. (2019) indicate that intention toward technology acceptance is significantly influenced by organizational culture. According to a study by Gonçalo Baptista, and Tiago Oliveira (2015), organizational culture has a significant impact on both intention and actual technology adoption behavior. This suggests that an organization's culture plays a crucial role in enhancing the connection between behavior and intention to adopt HR analytics. The adoption of HR analytics is fueled by HR technology, which also facilitates and serves as a prelude to HR analytics. The basis is HR technology, which enables the collecting, cleaning, and manipulation of different data types from diverse data sources so that more informed and data-driven decisions can be made (King, 2016; McIver et al., 2018).

### 2.3 Adoption of HRA – advantages

According to La Valle et al. (2011) of the Massachusetts Institute of Technology (MIT), high-performing businesses employ analytics five times more frequently than low-performing businesses. Similar findings were made by Narsimhan (2016), who found that while HR analytics are becoming more popular in India, most firms have only strategically contextualized them at the principal interface levels. Susmita Ekka and Punam Sing (2022) remarked that in their research from the University of Texas at Austin (UTAUT), corporate culture has a negative moderating effect on the association between HRA adoption intention and adoption behavior. The behavioral intention to utilize HRA was significantly positively influenced by performance expectancy, effort expectancy, social influence, and the enabling circumstance. Organizations can use the study's findings to help HR professionals embrace HRA more successfully. The implementation of HR analytics, according to Van der Togt and Rasmussen (2017), has changed the game and given organizations the potential to improve staff skills, boost employee retention, and acquire a competitive edge. The use of existing data to predict future ROI (return on investment) is a significant benefit of HR analytics, which is a key instrument for progress in the modern era (BenGal, 2019). Numerous studies have shown its value in enhancing management and decision-making, among other tasks (Abdul Quddus Mohammed, 2019). HR analytics is more common among HR departments, claim Shrivastava et al. (2018). By discovering several high-performance indicators that might forecast a candidate's likelihood of success, Google's HR analytics team devised an evidence-based strategy to enhance its recruiting and selection process, as demonstrated by the example they use. Buttner and Tullar (2018) and Levenson (2018) claim that with HR analytics, firms may address a range of issues, such as turnover and strategy, employee engagement, recruitment and selection, diversity, and inclusion. HR analytics were used to illustrate the graduate training program's strong business benefits. Higher operator skills because of this resulted in fewer accidents, less maintenance time, and happier customers. Tesco and McDonald's are two instances of companies that were able to determine how employee attitudes, management style, and staff demographics interacted to improve restaurant performance (Sparrow, P., Hird, M. and Cooper, C. 2015; David Angrave et al., 2016).

### 2.4 Challenges of HRA adoption

Workforce planning, diversity and inclusion, recruitment and selection, performance measurement, and other data-driven decisions have begun to be made by HR departments (Tursunbayeva et al., 2021). The adoption of HRA among HR professionals remains sluggish despite the perceived benefits (Vargas et al., 2018), primarily because technology adoption obstacles exist. Though Margherita (2020) argues that there has been an increase in the literature on HR analytics and the number of case studies that prove that HR analytics helps in improving organizational performance, Minbaeva (2018) points out that more research is needed on how and to what extent HR analytics affects organizational performance. Levenson A (2011) states that the greater obstacle to using analytics is the time and resources required, as well as knowledge of the types, timing, and methods to use. According to Minbaeva (2018), who examined the replicability of HR analytics, companies need high-quality data, analytical skills, and the ability to act strategically to use and perform value-added HR analytics.

Davinder Sharma (2019) observed that without transformation, data remains a commodity and serves no purpose for enterprises. Since data analysis has evolved into a way of life for HR professionals everywhere, the industry has undergone a significant transformation. More data, more computer power, and analytics algorithms were used in the development and positioning of HR analytics. Organizations are still struggling to fully comprehend how data and big data are used in the HR sector and how this affects the firm's overall effectiveness. Few firms are at ease handling data and are not aware of all its advantages and applications, which is now

 

preventing the adoption of HRA (Dahlbom et al. 2020; Rasmussen, T., & Ulrich, D. 2015; Fitz-Enz, J. 2010). Another significant obstacle to the adoption of HRA and the most frequently cited issue by researchers is the absence of data analysis expertise inside the HR department (Bassi, L. 2011; Sripathi, K., & Madhavaiah, C. 2018). The usefulness of HR analytics will increase when obstacles in the HR field are overcome. HR managers are conversant with HR analytics principles but often lack the analytical abilities to put them into practice. Due to the low level of technology, poor data quality, limited resources, insufficient analytical skills, and insufficient involvement of senior management, it is challenging for HR departments to have all three elements to execute HRA successfully (Andersen, 2017).

The popular literature on HR analytics currently contains more hype than substance, and software and consulting firms have recognized the business opportunity (Rasmussen and Ulrich, 2015). According to CAHRS (Center for Advanced Human Resource Studies) (2013), HR managers have not completed their transformation from administrators to strategic partners. It is important to keep in mind that not all employees have the same passions, and as a result, not all personnel may be in favor of using sensitive information about human resources for research (Coolen, 2015). According to Economist Intelligence Unit (EIU) (2012), the latter is still more focused on process than strategy, lacks a sufficient understanding of the business, and their level of training is below that of other managers, making them behave like independent advisors rather than full members of the management team. Even if HR has great ideas for generating analytics, it may not be able to get the necessary backing or put the findings into action. Due to organizational silos, it is frequently difficult to construct analytical models that combine data on various determinants of productivity and performance with data on HR-related aspects (Rasmussen and Ulrich, 2015). Work becomes increasingly dystopian as algorithms manage worker behavior and interactions in real-time, requiring maximum effort and removing worker autonomy and control. According to Negin Chahtalkhi (2016), organizations do encounter difficulties when implementing HR Analytics. These difficulties include a lack of support from upper management and the business, a failure to use the appropriate tool and obtain the necessary data, a failure to use the data with regard to legal and compliance issues, a failure to staff the team with the appropriate roles, a failure to take advantage of opportunities like training sessions to enable skill development, and a failure to communicate effectively between the parties involved.

### 2.5 Requirements for the effective adoption of HRA

According to Chattopadhyay, D., Biswas, B. D., & Mukherjee, S. (2017), the landscape of data analytics within HR has undergone a revolution and is now playing a more strategic role in enhancing corporate performance and gaining competitive advantages. The dimension of high-quality data, according to the human capital analytics framework, indicates that the data used for analytics must be accurate, consistent, up-to-date, and comprehensive. For instance, businesses must guarantee the accuracy of the data they use for HR analytics. The insights gleaned from analytics will be unreliable and of no use to the company without accurate data (Wamba and co., 2019; Peeters and others, 2020). According to Boudreau and Ramstad (2006), analytics need to be incorporated into a logical framework that is connected to the business, and a (change) process is required to ensure that they are utilized in a manner that maximizes their impact. The logic framework ensures that the analytics are set up to maximize the discovery of actionable data and analysis results and are focused on the right issues. The data is turned into action by the process of applying the analytics results.

The study by Senaratne et al. (2019) explain how technology adoption affects behavioral intention. Behavioral intention is an individual's subjective likelihood of executing a particular behavior, which is the main determinant of actual user behavior. According to Wang et al. (2020), successful technology adoption requires an understanding of adoption behavior. The intention to utilize technology and its acceptability, or actual adoption, are studied using a variety of adoption models. The effectiveness of HR analytics depends critically on the analytics team's capacity to use statistical analysis and methods on workforce data to convert data into insightful knowledge (McCartney et al., 2020). In this regard, Minbaeva (2018) notes that the analytics team must be able to develop pertinent research questions and respond to them by developing causal models and utilizing sophisticated statistical analysis to derive hidden insights. Additionally, the group must be able to develop a captivating analytics narrative or story using the gathered information (Andersen, 2017; Minbaeva, 2018; McCartney and others, 2020). The team needs managerial support to make decisions and put solutions into action based on the data, knowledge, and insight gleaned from HR analytics. HR technology enables HR practitioners to gather, analyze, and visualize data, giving senior management greater knowledge on which to base decisions (Ulrich, D., and Dulebohn, J.H. 2015). Utilizing HR technology will make it possible to speed up the process of converting workforce data into information and insights about the business (McIver, D., et al. 2018). Sharma and Sharma (2017) also support the idea that HR professionals can carry out intricate statistical analyses through the use of HR technology, which in turn enables the creation of sophisticated people models and predictive analytics. To establish highly effective HR analytics teams, members of the teams must have a variety of complementary knowledge, skills, abilities, and other qualities (KSAOs), according to McIver et al., (2018). In the words of van der Togt, J., and Rasmussen, T.H. (2017), a strong business focus, a solid foundation in behavioral science, excellent data and statistical capabilities, the

 

capacity to produce easy-to-understand, actionable interventions, and the ability to tell a compelling story about why the findings are important to the business are all necessary for effective HR analytics. Instead of utilizing a talent pool, many healthcare facilities maintain low-cost shared services centers with high headcounts, resulting in a lack of ROI. In this regard, institutions have chosen HR analytics as the most useful tool. According to George and Kamalanabhan (2016), HR professionals should focus more of their time on activities that generate value rather than on projects that have less value.

According to Bersin (2015), it is necessary to collaborate with the employees and legal department to convince them that using the data for analysis purposes is being done in accordance with legal requirements. As a result, Bersin recommends providing the HR analytics team with training in data security, privacy, and identity protection to guarantee the appropriate use of the data and gain the organization's trust and support.

To incorporate HR analytics and improve organisational effectiveness, HR professionals are working to strengthen their decision-making skills. Organizations need to understand the complex interactions between staffing numbers, expertise (Dwivedi, P., and Sahu, G.P., 2014), pay scales (Maria, 2019), employee profiles, and other aspects. A timely and integrated perspective is needed to fully comprehend how workforce issues affect enterprises (Akhmetova, S. G., & Nevskaya, L. V., 2020).

HR Analytics provides the function with a more strategic role, according to studies by Ingham (2011), Lakshmi and Pratap (2016), and Sharma and Sharma (2017). To fully realise analytics' potential, HR professionals must adopt it and properly research its approaches and resources. As a result, there will be more positive organisational outcomes, such as improved employee performance and satisfaction.

## 3. Research Questions

The following are the research questions for the study:

a) What is the concept of HR analytics?
b) What are the antecedents of HR analytics?
c) What elements are crucial to a successful HR analytics implementation?
d) What would be the impact of HRA on talent management?
e) Will HRA works as a tool for branding of a firm, business, and its employees?
f) How can HR analytics impact organizational results, particularly boosting organizational effectiveness?
g) What are the early steps and success elements of HRA adoption, despite the numerous studies on the impact of HR analytics on organizational effectiveness?
h) What difficulties would a company encounter while putting HRA into practice?

## 4. Statement of Problem

The primary focus of the research is on the antecedents and critical factors of HR analytics' successful implementation, as well as its impact on talent management and organizational effectiveness, its support for brand building, and advice on overcoming obstacles.

## 5. Objectives of The Research

The most recent concerns and developments surrounding human resource analytics will be covered in this paper. To ensure organizational effectiveness and business competitiveness, it will throw light on its execution and the associated antecedents and consequences. It seeks to improve comprehension of the issues today facing HRA and to offer suggestions for solutions.

## 6. Methodology

The antecedents and consequences of HR Analytics, specifically the success factors of its implementation, are examined through a systematic literature review and secondary data collection. EBSCO, a multidisciplinary online database, searched for research papers on "HR Analytics," "people analytics," and "Workforce Analytics" from peer-reviewed journals published between 2006 and 2022 for academic research and HR Analytics-related journals.

## 7. Research Findings

Only a few corporations claimed to have completely incorporated HR analytics inside their organizations, even though many are keen to explore the realms of predictive and prescriptive analytics. Because of this, most companies are still working on automating HR reporting and using fundamental analytics methods on HR data, and HR has only just started on its journey toward analytics. Considering this, utilizing data and big data to assist strategic decision-making, enhance HR practices, and address workforce-related concerns is still considered futuristic.

Deloitte (2015) asserts that businesses that invest in developing their people analytics skills will likely do much better than their rivals in the years to come. The quantity and quality of HR data, particularly people data, are expanding incredibly quickly, and HR analytics' potential for usefulness is only going to grow. The field has

 

the potential to change the game in the long run for businesses and organizations that persevere in investing in the insights and acting on them. McGraw Hill Financial and IBM are effectively utilizing HR analytics, which enables them to instantly forecast which employees will quit their employment soon (SHRM Foundation, 2016). The fact that several firms have already gained, particularly in terms of retention, has contributed to HR analytics' early acceptance among commercial groups. Companies use variables including gender, age, department, academic background, specialty, and other pertinent information to manage their personnel.

Over 87% of company executives are concerned about employee engagement and retention, over 86% are worried about leadership, and over 85% are worried about working abilities in general. This highlights the significance of making decisions on human resources based on scientific facts to offer potential remedies. (Bersin 2015). One of the greatest possibilities for HR to enhance its decision-making processes and discover appropriate solutions when dealing with problems like low engagement outcomes or subpar performance can be observed in the movement to become more fact-based. According to Marler and Boudreau (2017), HR analytics is a methodology that gives managers the knowledge they need to correlate HR processes with workers' activities and, ultimately, with the results of the business. According to their research, HRA and organizational effectiveness are positively correlated. Ben-Gal (2019) concludes that there is a relationship between the amount of effort and expenditure in HR analytics and organizational success in his ROI-based analysis of HR analytics. Marritt (2015) further stated that top HR managers need to grasp analytics more to discover solutions.

HR analytics must continue to follow the crucial privacy norms and regulations that come with using anonymized employees' data for this market to expand (van der Togt, J. and Rasmussen, T.H. 2017). When HR analytics are used correctly, consulting costs are reduced and time is saved (Rasmussen and Ulrich, 2015). Similarly, Naula (2015) asserts that HR analytics boost HR credibility by improving the efficacy of its policies and processes, resulting in a competitive advantage for the firm. HR Analytics is undoubtedly on the path to making more meaningful and strategic choices, which increases its credibility inside the enterprise and places HR as a fundamental function. However, Chattopadhyay et al. (2017) observes that organizations are taking longer than expected to adopt HR data analytics since data science adoption is also sluggish. This is since employing big data calls for a change in both the culture and the procedures that were previously employed. A strong, visionary leader with appropriate access to resources is necessary for the implementation of analytics. A change agent is greatly needed, particularly in the public sector.

## 8. Implications of the Study

The company will benefit from using a portfolio approach to select projects to work on and evaluating potential projects in terms of their potential operational and financial business value, as well as the likelihood of obtaining actionable insights from predictive analytics. The company and its HR strategy ultimately determine business value; the maturity of scientific research in interest to the company can be used to estimate likelihood. Recruitment, which has been the subject of psychological research for over a century, is more likely to be based on research than future workforce digitization (van der Togt, J. and Rasmussen, T.H. 2017). Further the researchers stated that in most organizations, there is a constant shortage of the skills necessary to translate academic insights into practical advice, transform data into predictions, learn from trends, and propose a sound set of interventions to advance the business strategy.

The study by Lakshmi and Pratap (2016) on the strategic role of HR analytics asserts that in order for HR to play a more strategic role and have a greater impact on the business and its outcomes, HR professionals must embrace analytics and delve deeply into its tools and methods to realize its full potential. A few of the expected results are improved organizational performance, higher employee engagement, and increased customer happiness.

Donaldson (2015) adds that if the organization does not put the recommendations into action, knowing the results of the analyses will have no effect. HR analytics will be able to acquire the technology and human resources it needs to succeed and concentrate on the most pressing business issues if it gets a strong sponsorship (Berry, 2015).

According to Coolen (2015), if at all feasible, all stakeholders should be informed about the effects and advantages of HR analytics. This may be accomplished by offering courses with the intention of sharing all outcomes with the pertinent target audience, such as the HR community. It is thought that consistency in raising awareness is crucial and that this consistency may be maintained by publishing booklets with the findings of additional analyses.

Data scientists, consultants, OD specialists, graphic designers, and IT professionals are just a few of the individuals that Bersin (2015) claims are required to make HR analytics successful. It takes some time for this to work correctly. To ensure that the HR analytics department operates to its full potential, it is imperative to always seek to improve. In order to integrate HR analytics, Marler and Boudreau (2017) note that HR practitioners must endeavor to link the dispersed IT ecosystem and automate the data-collecting process. Instead of a single analyst or team of analysts that work across all organizational functions, successful implementation of HR analytics requires analytically qualified employees inside the HR department. Naula, S. (2015) asserts that to transform

 

findings into solutions for enhanced business performance, HR professionals need to sharpen their analytical and business abilities. Zeidan, S., and Itani, N. (2020) recommend doing cost-benefit studies, return on investment evaluations, and impact assessments to quantify the effects of HRA on employee and organizational performance.

According to Heuvel and Bondarouk (2017), encouraging evidence-based decision-making and cultivating an analytical mentality, notably with regard to HR activities, would be the key focus in 2025. They also emphasize how crucial it is to identify specific HR drivers that have an impact on business outcomes because prior research has only shown a positive correlation between HRA and business outcomes without specifying which specific outcomes are impacted, whether directly or indirectly, and to what degree.

## 9. Conclusion

Academics and business professionals are conducting more research in the field of HR analytics, which gives businesses the confidence to progressively adopt this analytical tool and allocate funds for such projects. By enhancing HR rules and processes, HR analytics may undoubtedly increase the department's reputation. To effectively cooperate on HR analytics initiatives, HR professionals are gaining new skills and competencies. They must also cope with the moral conundrums that arise. According to van der Togt, J. and Rasmussen, T.H. (2017), HR analytics may be a fad right now, but they will revolutionize the field in the future. It takes advantage of the always-growing troves of aggregated data about individuals, business operations, and financial issues. HR analytics' viability will depend on how well its findings can be commercialized. The fact that HR analytics is receiving so much attention from academics and business professionals is positive. HR professionals must become proficient at demonstrating the effects of HR strategies on business outcomes. The extent to which HR analytics affected job performance measurements (proficiency) and company performance (productivity, quality, cost, and time) can be used to evaluate the value of great transformation efforts. Utilizing a team of change management consultants to help institutionalize novel ideas and approaches is strongly recommended when making those adjustments (Bersin, 2015; Ulrich, D., Schiemann, W. A., & Sartain, L. 2015). According to Kremer (2018), the success or failure of HR Analytics will largely depend on the moderate elements that influence or inhibit it. The need to implement analytics in HR is growing, and in the not-too-distant future, it will be part of the overall HR function. Analytics will be viewed as an essential component of the HR function in the new vision (Bersin, 2015). In order to attract a larger number of stakeholders, it is essential to point out that data science ought to be included as one component of the decision-making processes (Coolen, 2015), alongside individual context and experience.

## 10. Scope for Future Research

The scope, application, and potential of the emerging area of HR Analytics can be made more apparent by theoretical research of this kind. Use of analytics in many HR activities, including diversity and inclusion, performance management, and talent management. HR Analytics and the factors influencing it may benefit from the use of empirical research based on longitudinal data collection to get results applicable to other businesses. There are hardly any studies that have examined the impact of HR Analytics on certain organizational outcomes. More research is needed to completely comprehend the interactions and determine their significance for certain HR operations, including talent acquisition, performance management, and compensation. Conducting exploratory research on the problems and obstacles to HR analytics adoption in enterprises can be part of the future scope.

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