HR ANALYTICS AND ITS MODERATING FACTORS-A REVIEW

Mr.T.Nagendra Kumar,
Assistant Professor, Department of Management Studies,
VFSTR Deemed to be University, Vadlamudi-522213

Mr.D.Prudhvi,
Student, Department of Management Studies,
VFSTR Deemed to be University, Vadlamudi-522213

Mr.G.Yoga Sai Kumar,
Student, Department of Management Studies,
VFSTR Deemed to be University, Vadlamudi-522213

ABSTRACT

This theoretical article elaborates the moderating factors of the human resources analysis (HR Analytics), considered as one of the main initiatives in human resources today. It seems that the analysis simplifies the decision-making process by proposing a more data-driven approach. Although human resource analysis is a priority in most organizations, the implementation process is slow and only a minor proportion of them even report having implemented it. HR analysis is not progressing as many academics have suggested over the last 10 years. Therefore, it seems necessary to identify the modulatory factors of HR Analytics that promote or hinder its success. The number of academic research articles dealing with this subject is very small. The impact of moderating factors on the level of human resource analysis is vague and unexplored. This paper offers potential explanations of the relationship between moderators and HR analysis and provides suggestions to organizations on how best to address these factors. In the first part of this article, the development and theoretical assumptions for a more data-driven approach to human resource decision-making are developed. Then the concept of HR Analytics will be defined. The third section presents case studies and examines the importance of the practice of human resource analysis in organizations. In the following, each moderation factor will be examined in detail. Finally, the main conclusions of the subject under study are discussed and summarized.

Keywords: HR Analytics, People Analytics, HR Metrics, Big Data, Strategic HRM

INTRODUCTION

The purpose of this article is to address the question why HR Analytics is not progressing, as it is proposed by many academics. In doing so, this article provides a review of high quality research, related to the moderation of factors that promote or prevent HR Analytics' success. However, high quality research on HR Analytics's value is quite rare. On the one hand, most articles are published by consultants with business interest and more based on beliefs than proofs. On the other hand, most of the reported HR Analytics successful stories have a narrow focus and deal with topics as a daytime. The purpose of this article is not only to identify and describe moderate factors of HR Analytics. I am still trying to provide a

better understanding of how moderation factors influence the level of H. Analysis and show how organizations best deal with these factors.

THEORETICAL BACKGROUND

The bibliographical evaluation is based on the introduction of research articles, books, blankets and consulting information, dealing with the concept of HR Analytics and in fact with factors that appear to be successful in the successful use of HR Analytics in organizations. The re-book was done through academic databases accessed by EBSCO host and Google Scholar using the main words HR Analytics, Human Resource Analytics, People Analytics, Talent Analytics and Workforce Analytics. A total of 39 articles were added to the literature review, which were - with two exceptions - all published between the years 2004-2017.

The analysis of the articles revealed five main directions of moderating factors related to HR Analytics. For better transparency, they have received the following names in this literary review: (1) identify problems, (2) data infrastructure, (3) information technology, (4) analysis capabilities, (5) business access. In order to ensure a better understanding of the subject reviewed, the literary review also covers the background of HR Analytics and elaborates the development and theoretical prepositions of more data-oriented access to decision-making in H.-HR. This follows the elaboration of existing definitions of HR Analytics. Furthermore, cases of study are illustrated to show how widely the practical thinking of RIM Analysis in organizations has been spread. Finally, the most important findings of the subject under review are discussed and summarized. Table 1. summarizes the details of the most important articles referenced in the literature review in relation to the topics discussed.

The term Human Resource Management (HRM) covers traditional basic activities such as stocking, planning, performance evaluation, training and development, pay, labor relations and safety and health. In addition to these activities, HRM includes the adaptation of these HR activities, organizational change management and culture as well as project organization activities as part of its strategic role (Schuler - Jackson, 2005). The role of HRM has developed significantly since the 1980s and has changed as a mandatory administrator of HR practices into a more strategic role, acting as a strategic business partner (Ulrich - Dulebohn, 2015). The evolution of HRM was influenced first of all by the development of new technologies that changed various HR processes and the way of managing work in organizations (Stone et al., 2015). This general development of HRM had a significant impact on practice and general pressure on HRM. Looking back at the administrative role of HRM, its main goal was to make HR practices more cost-effective. However, because HRM takes on a strategic role, the goal is more related to generating value for the entire organizational activity, for example by improving customer satisfaction through increased employee engagement (Ulrich - Dulebohn, 2015). The main evolutionary HRM over time, along with the technological development, greatly influenced the measurement and decision-making processes of HRM. At the same time, many scholars claim that data processing, measurement and analysis as the basis for HRM decision-making processes are key factors in developing HRM as a strategic partner (Lawler et al.,

2004; Walsh, 2010). Although this development is well recognized, uncertainty is associated with the business impact of HR, as a gap of various research results still exists in the literature (Boudreau - Ramstad, 2007; Walsh, 2010; Jackson et al., 2014).

The idea of measuring data in HR is not new and develops almost simultaneously with the changing role of HRM. Metrics on measuring costs, quantity and time of workforce started in the 1970s. In the 1980s, these statistics began with benchmarking, which allowed organizations to compare their results with other organizations (Fitz et al., 2010). Later in the 1990s, balanced scorecards and strategy cards were developed to include operational targets and strategic objectives of the organizations. The HR balanced scorecards typically included HR outcomes and processes, alignment between the processes and the business strategy and KPIs that measure the effectiveness of HR outcomes and processes (Douthitt - Mondore, 2014). HR statistics are usually divided into four types, including efficacy metrics, efficacy metrics and impact or outcome metrics (Lawler et al., 2004; Boudreau - Ramstad, 2007). Boudreau and Ramstad (2007) claim that MHB was mainly involved in measuring the effectiveness of the HR function itself, rather than providing measurements that indicate the value it generates for the general business. Although the focus is still strong on HRM itself, the measurements have already shifted from activities to the outcomes, along with the development of strategic HRM. To deliver more strategic value, HR must show correlations between its activities and business outcomes (Ulrich - Dulebohn, 2015).

Definition of HR Analytics

Various names have been attributed to the process of applying big data in human resources, including HR Analytics, People Analytics, Talent Analytics and Workforce Analytics. As for the name, there is no consistent definition of HR Analytics (Marler - Boudreau, 2017). A first approach distinguishes HR analyzes from HR metrics and indicates that they represent statistical and experimental techniques used to demonstrate the effect of HR activities on a firm's performance (Lawler et al., 2004). Later, the definitions of HR Analytics become more general and describe it as a process focused on analysis or decision-making. According to Harris et al. (2011), HR Analytics consists of six different types of analytical processes for analyzing HR data. Falletta (2014) defines HR analysis in terms of 18 HR practices. His research shows that employee surveys are predominant, followed by talent profiling and human resource measures. Mondore et al. (2011) take a more strategic approach and define human resource analysis as demonstrating that people have a direct impact on business performance.
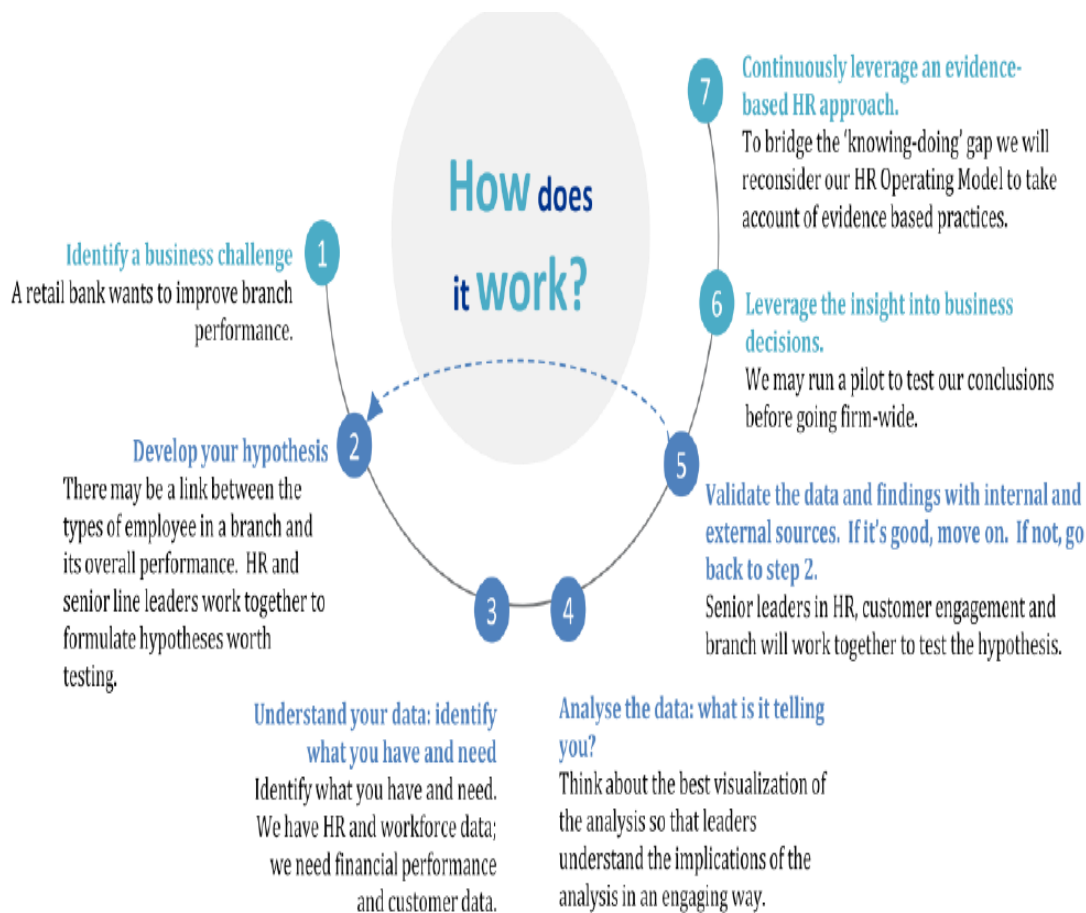
HR Analytics in Practice

Aral et al. (2012) provide strong evidence for a positive correlation between financial performance and the use of HR Analytics in their empirical research. In addition, several empirical articles confirm this correlation with illusory case studies (Harris et al., 2011, Coco et al., 2011, Mondore et al., 2011, Levenson, 2011, DiBernardino, 2011). For example, Harris et al. (2011) describe how Sysco performs HR analytics to determine the relationship between higher revenues, driver satisfaction, job climate surveys and customer loyalty. In addition, they illustrate how Google uses its database of applicants to assess individual performance levels. Providing a detailed case study, Coco et al. (2011) show how Lowes, a chain of home improvement stores, performs HR analytics to establish a link between employee engagement, HR processes and store performance. Thanks to the greater involvement of employees, they managed to increase the average sale of customer tickets by 4 percent.

Given the evidence that confirms the established positive relationship between HR analytics and business performance, it is surprising that there is still a low level of HR analytics in all companies. According to this reasoning, Fallet (2014) conducted a survey among 220 Fortune 1000 companies to determine the use of HR Analytics. She found that only 15% of the HR Analytics sample played a key role in defining or implementing HR strategies. In addition, the HR Analytics department primarily analyzed the results of employee questionnaires. Lawler and Boudreau (2015) report in a similar study in which over 100 Fortune 500 companies took part that less than 30 percent of companies have HR analyzes that determine the correlation between HR processes, employees and the company's impact. However, over 70 percent of

companies use HR metrics to show how effective their HR processes are. This allocation of HR resources is questionable if one considers that the administrative costs are usually only 3% of the company's sales. Thus, reducing the administrative costs of the HR department will probably not affect business results (Harris et al., 2011).

MODERATING FACTORS:

Identify problems

Mathematician John W. Tukey (1962, p. 13) stressed that "the approximate answer to the right question, often ambiguous, [is much better] than the exact answer to the erroneous question that can always be clarified" This notion is important in this way that helps HR Analytics become a desirable innovation, as expected by many specialists and practitioners, and simply avoid a different managerial fashion. Rasmussen and Ulrich (2015) argue that extensive analysis of large amounts of data and an attempt to answer erroneous questions will have little practical value. In order to ensure the value of the organization, the ability to go beyond identifying patterns and initiating and performing the entire organizational change process is needed. This requires HR managers to clearly understand and focus on the business who are currently in need (Rasmussen - Ulrich, 2015). Fink (2017) suggests that the comprehensive workflow of HR Analytics begins by asking the right question and ends by measuring the result to determine if the action was effective. However, the Chartered Institute for Personnel and Development (2013) argues that HR specialists do not have sufficient knowledge, skills and knowledge about entrepreneurship to ask the right question based on the data available to them. Moreover, even if HR specialists have a good and promising approach to analysts, their hierarchical position in the organization may hinder the implementation of their initiatives (Smeyers, 2015).

Data infrastructure

Harris et al. (2011) emphasize the importance of having compatible, accurate, integrated, relevant and available employee data available to track employee competencies and disclose patterns. Bersin (2013) points out that the availability of HR data is not a problem because organizations have acquired educational history, demographic information and performance information, and many other employee factors for about three decades. However, the full potential of HR analytics can be used only when data is combined between functions and even external to the organization. Similarly, Rasmussen and Ulrich (2015) emphasize that HR Analytics reveals new insights when different perspectives and areas merge (eg clients, investors, technology, human capital, etc.). Therefore, all data and information restrictions limit the potential of HR Analytics.

Unlike Bersin's statement, data availability is a problem. On the one hand, researchers report that data is not fully collected or inaccurate (Bassi, 2011, Angrave et al., 2016, Pape, 2016). On the other hand, the required data is not fully available because it is not integrated between functions, divisions or geography (Douthitt - Mondore, 2014). As a result, the generated reports and analyzes are very simple and reflect only

insufficient performance-based metrics (Falletta, 2014). According to Angrave et al. (2016) this situation can change when IT suppliers perceive HR analytics as a new innovation to increase profits. Then human resources information systems (HRIS) would improve in terms of functionality and capacity to integrate data from different sources.

Information technology

The importance of HRIS for HR Analytics has been noted in several articles. Indeed, Aral et al. (2012) demonstrated in his research that organizations with HR Analytics, but without HRIS, show no performance improvement. With regard to HR Analytics, information technology can be both an activator and an obstacle. Good HRIS acts as a tool to assist HR analytics when it captures and stores data and provides data between functions, divisions or geography to generate reports, scorecards and manager dashboards (Marler - Boudreau, 2017). However, as mentioned earlier, the current HRIS capabilities do not meet the requirements of HR Analytics.

According to research conducted by Kaur and Fink (2017), the most commonly used technologies for HR analysis include R, Tableau, Python, SPSS and Excel. The study confirms that HRIS is not sufficient to perform statistical analysis and data visualization. The most commonly used tool is R, which is preferred for compatibility with many file formats and other tools, such as Tableau, as well as several machine learning packages. The applied technology already assumes that HR Analytics requires advanced statistical and econometric skills that go beyond the analysis of correlation of dependent and independent variables.

Analytical skills

The lack of HR specialists with analytical skills is probably the most common reason quoted in the literature, why HR Analytics does not become more widespread. However, even analysts need statistical or econometric software, such as R or Stata. Analytical packages that can be added to standard HRIS do not have the power and flexibility to test by analyzing experiments that assumption about correlations between specific variables result from certain reasons (Cascio- Boudreau, 2011). The opinion on whether scientists can support the elimination of the gap between HR specialists and data scientists in already existing analytical projects is divided. The involvement of scientists in corporate analytics projects has been noted in many articles (Sparrow et al., 2015, Cascio - Boudreau, 2011). There is evidence that organizations draw on the experience of doctors in professions such as engineering, statistics and psychology to strengthen their analytical activities (Bersin, 2015). Rasmussen and Ulrich (2015), however, question business understanding to ask the right question. They even go a step further and suggest that HR Analytics does not appear in HR to become part of interdisciplinary business analytics.

Enterprise approach

The next moderating factor of HR Analytics is based on culture and politics. The successful implementation and performance of HR Analytics are characterized by changes and will require great flexibility and adaptability from the entire organization. In this regard, Rasmussen and Ulrich (2015)

highlight Festinger's findings on cognitive dissonance. According to Festinger, there is a strong bias towards rejecting information that poses a risk to existing beliefs, especially if they have invested effort, time and identity in their ideas or projects. Therefore, the success of HR Analytics depends on resolving this resistance by involving key stakeholders in the process upstream of building the analysis. HR analysis is not just about data and science, but also about activism and change management (Rasmussen - Ulrich, 2015). Davenport and Harris (2007) advocate for a culture that is open to analysis and that recognizes the entire organization as measuring, testing and evaluating quantitative data. This would motivate employees to make decisions in a very rational way. The analytical approach must be included in the company's strategy and be pushed to all levels of the company. That's why the success of HR Analytics depends largely on the senior and middle management of an organization. Waber (2015) points out that "when implementing HR Analytics, you need the consent of the leaders". A culture is needed and must be promoted by leaders who tolerate experimentation and mistakes, which does not seem to be tolerated at present, especially in the human resource function (Davenport et al., 2010).

DISCUSSION AND CONCLUSIONS

The development of the moderating factors of HR Analytics provides some possible explanations as to why HR Analytics is not progressing as proposed in the literature. Overall, five main moderating factors have been identified in the literature to promote or prevent the success of HR analysis. Most articles are theoretically based and provide limited scientific evidence regarding the practical implementation and application of human resources analysis. Current research is dominated by qualitative case studies based on already existing management frameworks at a very broad general level. That's why even leading researchers do not agree that HR Analytics is the next "must-have" innovation in the HR function. Therefore, academic researchers still have a long way to go to contribute to the development of the HR Analytics concept, including through scholarly scientific research. First, HR professionals must be able to identify organizational problems and ask the right questions. Analyzing a large amount of data while trying to answer the wrong question will probably hurt the interests of employees instead of being beneficial. Secondly, HR Analytics requires an infrastructure to access accurate and consistent data on all functions, even external to the organization. Third, information technology is needed in the direction of advanced analysis and focusing on data mining, analysis and modeling. Most current HRIS capabilities do not meet these requirements and need to be upgraded. Secondly, in order to effectively perform HR analyzes, HR professionals need specific skills to prepare data, perform statistical analysis, and communicate results in an understandable and understandable way. In this regard, the deployment of academics can help bridge the gap between human resource professionals and data specialists in an existing business analysis project. Indeed, some organizations already rely on the expertise of doctors in fields such as engineering, statistics and psychology to improve their analysis activities. Finally, to effectively implement HR Analytics, a comprehensive enterprise approach is needed, with the integration of processes, data, and analytics across the organization. This requires great flexibility and adaptability on the part of the whole organization, which must be managed in a change management process.

In conclusion, although this is a new area of high interest, which is the subject of much debate among academics and industry professionals, there is little scientific research. The reason could be the innovative nature of HR Analytics, which lacks a scientific research approach. The development of an integrated policy framework on how to implement and use human resource analysis would reduce uncertainty for early users at this early stage. This review provides a better understanding of the relationship between important contextual factors and the successful adoption of HR Analytics. However, further research is needed to better assess the impact of these factors.

References

- *Angrave, D. – Charlwood, A. – Kirkpatrick, I. – Lawrence, M. – Stuart, M.* (2016): HR and analytics: Why HR is set to fail the big data challenge. Human Resource Management Journal, Vol. 26, pp. 1–11.

- *Aral, S. – Brynjolfsson, E. – Wu, L.* (2012): Three-way complementarities: Performance Pay, human resource analytics, and information technology. Management Science, Vol. 58, pp. 913–931.

- *Bassi, L.* (2011): Raging debates in HR Analytics. People & Strategy, Vol. 34, pp. 14–18.

- *Bersin, J.* (2014): Talent Management for the Global Workforce: The Market for Talent Management Systems 2014. Oakland, CA: Bersin by Deloitte.

- *Bersin, J.* (2015): The geeks arrive in HR: people analytics is here. Source: https://www.forbes.com/ sites/joshbersin/2015/02/01/geeks-arrive-in-hr-people-analytics-is-here/#6ab42d8273b4 2018. 02. 20

- *Boudreau, J. – Ramstad, P.* (2007): Beyond HR. The new science of human capital. Boston: Harvard Business School Press

- *Cascio, W. – Boudreau, J.* (2011): Investing in people: Financial impact of human resource initiatives. New Jersey: by Pearson Education, Inc.

- *CIPD* (2013): Talent Analytics and Big Data – The Challenge for HR, London: Chartered Institute for Personnel and Development. Source: https://www.cipd. co.uk/Images/talent-analytics-and-big-data_2013- challenge-for-hr_tcm18-9289.pdf 2018. 02. 20

- *Coco, C. T. – Jamison, F. – Black, H.* (2011): Connecting people investments and business outcomes at Lowe's: Using value linkage analytics to link employee engagement to business performance. People & Strategy, Vol. 34, pp. 28–33.

- *Davenport, T. H. – Harris, J. G.* (2007): Competing on Analytics: The New Science of Winning. Boston: Harvard Business School Press

- *Davenport, T. H. – Harris, J. – Shapiro, J.* (2010): Competing on talent analytics. Harvard Business Review, Vol. 88, pp. 52–58.

- *DiBernardino, F.* (2011): The missing link: Measuring and managing financial performance of the human capital investment. People & Strategy, Vol. 34, pp. 44–49.

- *Douthitt, S. – Mondore, S.* (2014): Creating a business-focused HR function with analytics and integrated talent management. People & Strategy, Vol. 36, pp. 16–21.

- *Rousseau, D.M. & McCarthy, S. Evidence-based Management: Educating managers from an evidence-based perspective. Academy of Management Learning and Education, 2007, 6, 94- 101.*

- Boudreau JW & Ramstad PM (2003). "Strategic HRM Measurement in the 21st Century: From Justifying HR to Strategic Talent Leadership." In HRM in the 21st Century, M Goldsmith, RP Gandossy, & MS Efron (eds.), New York: John Wiley, 79- 90.

- Carlson K.D& Kavanagh M. J. HR Metrics and Workforce Analytics , Chapter 6, Sage Publications, retrieved from http://www.sagepub.in/upm-data/41672_6.pdf.