

A Critical Analysis in Understanding the Key Factors in Implementing Human Resource Analytics in Enhancing Employee Performance in Ites Industry

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Abstract

Employees are able to analyze whether or not they are on schedule to reach their targets and understand exactly which areas of their performance need to be improved owing to performance management software, which facilitates these evaluations. This article's purpose is to study the probable influence that HR analytics may have on employees' levels of performance in the workplace. In order to achieve this, the article analyses a variety of modules inside a performance management system, as well as possible challenges that may develop and the ways in which HR analytics may be utilized to tackle these issues. The research proposes that the application of HR analytics will enhance workers' opinions of the PMS process's correctness and fairness by lowering the impacts of subjective bias across the review and evaluation system. This would be done by reducing the impacts of subjective bias across the system. Also, this is beneficial to the productivity of the workforce as a whole. Researchers and practitioners working in the field of performance management may have something to gain from observing the successes of using HR analytics as a strategic tool to influence the overall performance of their employees throughout the entirety of the performance management system (PMS) process. Using evidence-based data and historical data, as well as HR analytics in performance planning, performance coaching, performance reviews, and career development, the article provides insights into how concerns about subjective bias can be addressed throughout the entirety of the PMS process. This includes performance planning, performance coaching, performance reviews, and career development.

Keywords: HR analytics, Employee Performance, ANOVA

Introduction

The concept of utilizing data and analytics in management, as well as the practice of doing so, has gained an increasing amount of attention as scholars and professionals attempt to understand how data can be transformed into actionable insights that improve the performance of organizations. This has resulted in the idea of utilizing data and analytics in management as well as the practice of doing so gaining more attention.

This interest has moved outside the realm of human resources management (HRM), as seen by the expanding number of human resources departments that are making use of HR analytics to improve decision-making. Quite a few pieces of evidence point in this general direction. The concept of using analytics to better manage a company's human resources is not

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fresh new, but there has been an uptick in interest in the practice recently. Since the year 2018 HR analytics developed from research carried out in the social sciences, such as organizational behavior, industrial and organizational psychology, human resource management, and human resources, into which HR functions such as selection, training, and performance management were integrated (Chierici 2019).

The focus of HR analytics in modern businesses has shifted from "assessing the levels associated with a certain workforce characteristic (for example, what is our cost per hire?)" to "what is our cost per hire?" This shift is the most significant change to HR analytics in recent years. This change is what gives today's businesses a need for HR analytics in the first place. In order to get knowledge of the relevance that human resources have in deciding whether the implementation of a business strategy is successful or not (Aloini, 2018). HR analytics, in its most fundamental form, refers to the practice of applying statistical and mathematical methods to data pertaining to human resources in order to improve corporate operations and practices pertaining to human resources. This is done with the goal of maximizing efficiency and effectiveness. Additionally, the vastly increased availability of HR technology such as human resource information systems (HRISs), cloud platforms, and apps has enabled HR departments to gather, manage, and analyze enormous amounts of employee data. This is in contrast to the limitations that older legacy IT systems impose on HR departments, which are caused by the limitations of older IT systems (Zhou, 2021). This is the situation due to the fact that human resources departments are no longer restricted by the limits of more antiquated information technology platforms. To wit: There have been several research organizations that have also produced findings that are equivalent to these. The human resources departments of many companies have increased their usage of HR analytics as a direct consequence of the trends described above (Peeters, 2020).

For instance, the Human Resources (HR) Analytics team at Google has established a strategy to enhance the company's application assessment and hiring practices that is driven by data. In order to gather and analyze information on job prospects and current workers, as well as to identify important indicators of future performance, the strategy calls for the employment of cutting-edge human resource management technologies. This has been shown to be the case in prior study and as a result, we are aware that this is the situation. In addition to this, HR analytics provides firms with the tools that are essential for addressing problems such as employee engagement, diversity, and attrition.

Literature Review

In spite of the growing body of written material on HR analytics and the availability of case studies claiming that HR analytics enables organizations to improve their performance, very little is known about how HR analytics actually impacts or influences the performance of organizations. This is the case despite the fact that the volume of written material on HR analytics is growing. The studies that have been conducted in this area have brought forth many different findings. This investigation attempts to comprehend how and why HR analytics has an effect on worker performance by theorizing about and conducting experiments on the mechanisms that underlie HR analytics. In particular, the purpose of this study is to get an understanding of how and why HR analytics might affect worker performance (Maamari, 2021).

In the next segment of this series, we are going to have a conversation about what HR analytics is and how it is progressing. As a result of the ongoing digital revolution, many HR departments have begun to engage with workforce data in order to make decisions that are

driven by data in a variety of areas, including diversity and inclusion, performance evaluation, workforce planning, and recruiting and selection. These decisions can be made in a variety of ways, including using artificial intelligence, machine learning, or a combination of both. This theory is supported by a significant body of research, some instances of which are the studies carried out by different researchers (Jeske, 2020).

In spite of its name, human resource analytics is widely regarded to be of strategic relevance in both academic study and company practices. This is because HR analytics offers firms with the data, statistics, and analysis they need in order to make intelligent decisions. As an example, HR analytics is described as the scientific research of the human components that have an influence on company performance. It is also vital to bear in mind that these realizations may be performed utilizing technologies that vary greatly in terms of their degrees of complexity. According to the human capital analytics paradigm, in order for the data that is used for analytics to be helpful, it must first and foremost be accurate, consistent, current, and complete. For Human Resource (HR) Analytics, for example, firms need to make assured that the data they utilize is of a high enough quality (Greasley, 2020).

Without dependable data, it is impossible to have trustworthy analytics. This has been proved to be the case, as a matter of fact. On the other hand, erroneous information may compel the deployment of procedures that do not address the true challenges that the organization is presently experiencing. As HR analytics needs the capacity to apply statistical analysis and procedures to data about the workforce in order to draw useful insights, having high levels of analytical competence are required for people who wish to engage in this profession (Black, 2020). For example, the analytics team is responsible for formulating important research questions and then providing answers to those questions by using models of cause and effect as well as advanced statistical analysis. In addition to this, the crew is tasked with developing the results into an engaging analytics narrative. This is not the case, as shown by the findings of a number of researches (Santoro, 2019).

Last but not least, the strategic capacity to act refers to the management assistance that is required in order to make choices and put solutions into action based on the data, information, and insights generated through HR analytics. In addition, we think of HR analytics as an important, uncommon, one-of-a-kind, and irreplaceable resource for organizations because of the data, information, and insights that it creates. This is because HR analytics generates all of these things (Omran, 2021). This view is backed by the multiple comparisons that may be drawn and have been implicitly offered by academics when considering HR analytics as a potential organizational resource. According to the research that has been done on the subject, there are not many high-quality HR analytics tools. This suggests that many businesses are not making the most of the data that pertains to their employees because they are only providing the most fundamental reporting and descriptive statistics. There is a lot of published material on this subject (Nielsen, 2018). As a consequence of this, there is an extreme scarcity of productive HR analytics efforts. The use of HR analytics is not without its drawbacks, and its usefulness is not without its restrictions. In order for enterprises to make advantage of HR analytics, they need to have access to trustworthy data, have strong analytical skills, and be able to both think strategically and act strategically. Because of insufficient resources, poor data quality, a lack of analytical abilities, and a lack of buy-in from upper management, it is difficult for the Human Resources department in the majority of organizations to have all three components. This is the case because all three components are interdependent on one another (Kim, 2021).

Here is what Andersen had to say about it. Last but not least, human resource analytics is a distinct discipline; there is no alternative that can provide insights on par with those offered

by HR analytics. As a result of HR's consistent growth over the course of time, an increasing number of companies all around the world are beginning to recognize the value of the function. At the moment, a Human Resources (HR) function is not merely connected to the hiring and firing procedures of an enterprise. In this day and age of globalization and cutthroat competition across all industries, it has become a difficult task for HR to find the ideal candidate for a company (Hamilton, 2020). If an organization attempts to identify and recruit its own talent pool, it will have a negative impact on its bottom line. HR departments should work together to find the best candidates. In most cases, HR analytics are used so that the HR department can better contribute to the overall performance of the company. Since they have not yet realized their full potential, many new and understaffed businesses are not yet equipped with the knowledge or experience necessary to use HR analytics (Hill, 2021).

Educators and researchers need to evaluate the analytical validity of the information that is easily available in order to link the numerous human resource performance techniques to the economic and non-economic metrics that analyze the overall practicability and effectiveness of an organization. When it comes to assessments of the whole organization, HR analytics are going to completely revolutionize the way things are done in the future. It's possible that HR analytics may change the way HRM is structured and used in order to increase productivity. It might help ensure that strong and flexible company structures are built on a maximal synthesis of people's skills and qualities on the one hand, and deliberate business aims on the other. This would be beneficial for both parties (Falletta, 2020). By carrying this out, HR analytics may end up having an effect on management norms. Human resource managers need to have the ability to continuously monitor personnel while making use of analytical methodologies, connecting mechanisms, more complex continuing analytics, and future needs in order for the strategic company plan to be properly executed. (Hilbert, 2009). (Hilbert, 2009). (Hilbert, 2009). The quantity and quality of the company's available labor force is the single most important aspect that distinguishes one modern business from another. We are living in a period of progress in which the ways in which business is conducted are undergoing fundamental shifts in terms of the personnel assets that are available, the amount of data that is available, and the analytical skills that are required to deal with the data. This is because of the fact that we are living in an era in which progress is occurring (Dubey, 2019).

Research hypothesis

There is no difference between among group of means between implementing HR analytics and improving overall performance of the employees

There is no difference between among group of means between implementing HR analytics and analysing the competency gap among the employees

There is no difference between among group of means between implementing HR analytics and improving talent acquisition in the organisation

Research Methodology and Design

In order to get the necessary information for the research questions, a mix of primary and secondary sources is required. Using standardised questionnaires and a Likert scale with five points ranging from "strongly agree" to "strongly disagree," primary data were collected and analysed. They had done a lot of reading on the subject before settling on the decision to do their own research. The purpose of this study was to investigate the elements that influence people's decisions to purchase organic food.

Data Analysis

Table 1: *Percentage rate analysis*

Gender	Frequency	Percent
Male	87	55.1
Female	71	44.9
Age	Frequency	Percent
Less than 30 years	52	32.9
31 - 40 years	47	29.7
41 - 50 years	20	12.7
Above 50 years	39	24.7
Current Position	Frequency	Percent
Lower level management	70	44.3
Middle level management	60	38
Top level management	28	17.7
Type of Family	Frequency	Percent
Nuclear Family	95	60.1
Joint Family	63	39.9
Education	Frequency	Percent
Completed UG	72	45.6
Completed PG	37	23.4
Completed Professional course	28	17.7
Others	21	13.3
Work experience	Frequency	Percent
Less than 5 years of experience	45	28.5
5 - 10 years	40	25.3
10 - 15 years	26	16.5
15 - 20 years	33	20.9
Above 20 years	14	8.9
Total	158	100

Based on the percentage rate analysis it is noted that 55.1% of the respondents were male and remaining 44.9% were female, 32.9% possess less than 30 years of age, 29.7% were in the age group between 31 - 40 years, 12.7% were in the age group between 41 - 50 years, 24.7% were in the age group of above 50 years. Furthermore, 44.3% were in the lower level of management, 38% were in the middle level management and 17.7% were in the top level management. 60.1% were living in nuclear family, 39.9% were living in joint family, 45.6% have complete UG course, 23.4% have completed PG course, 17.7% completed professional course and remaining have completed other courses like diploma etc. Lastly, 28.5% possess less than 5 years of experience, 25.3% were having experience between 5 - 10 years, 16.5% were having experience between 10 - 15 years, 20.9% were having experience between 15 - 20 years, 8.9% were having more than 20 years of experience.

Regression analysis

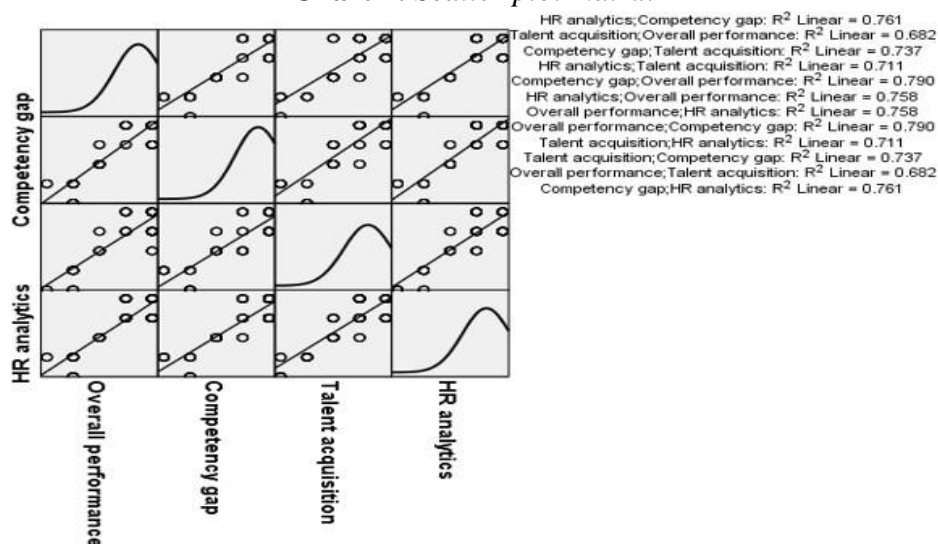
Table 2: Regression model

Model	SS	df	F	Sig.
Regression	173.208	3	237.219	.000b
Residual	37.482	154	R	0.91
Total	210.69	157	R sqd	0.82
Coefficients	B	Std. Error	t	Sig.
(Constant)	0.222	0.15	1.482	0.14
Overall performance	0.378	0.078	4.867	0.00
Competency gap	0.286	0.079	3.638	0.00
Talent acquisition	0.263	0.067	3.925	0.00

Scatter plot matrix

The scatter plot matrix is considered as the matrix of different scatter plots which is mainly used to visualise and interpret the relationship between combination of different variables available in the data set.

Chart 1: Scatter plot matrix



Based on the above matrix it is noted that all the independent variables viz., overall performance, competency gap and talent acquisition possess direct relationship with the dependent variable: HR analytics.

Analysis of variance (ANOVA)

ANOVA is a critical measure which helps to check if the overall means between two or more groups are significantly different from each other.

Table 3: ANOVA between overall performance and HR analytics

Overall performance	SS	df	Mean Square	F	Sig.
Between Groups	179.405	4	44.851	219.349	0.00
Within Groups	31.285	153	0.204		
Total	210.69	157	Levenes Test	55.168	0.00

Based on the above table the Levene's test statistic is 55.168 and corresponding significance value is 0.00. which is less than 0.05, hence it can be stated that there is a significant difference among the variances. Furthermore, the F value is 219.349 with p value

of 0.00, hence it can be stated that the null hypothesis is rejected, therefore it is concluded that there is a difference between among group of means between implementing HR analytics and improving overall performance of the employees.

Table 4: ANOVA between competency gap and HR analytics

Competency gap	SS	df	Mean Square	F	Sig.
Between Groups	173.75	4	43.438	179.914	0.00
Within Groups	36.94	153	0.241		
Total	210.69	157	Levenes Test	54.672	0.00

Based on the above table the Levene's test statistic is 54.672 and corresponding significance value is 0.00. which is less than 0.05, hence it can be stated that there is a significant difference among thevariances. Furthermore, the F value is 179.914 with p value of 0.00, hence it can be stated that the null hypothesis is rejected, therefore it is concluded that there is a difference between among group of means between implementing HR analytics and analysing the competency gap among the employees.

Table 5: ANOVA between talent acquisition and HR analytics

Talent acquisition	SS	df	Mean Square	F	Sig.
Between Groups	171.489	4	42.872	167.329	0.00
Within Groups	39.201	153	0.256		
Total	210.69	157	Levenes Test	17.154	0.00

Based on the above table the Levene's test statistic is 54.672 and corresponding significance value is 0.00. which is less than 0.05, hence it can be stated that there is a significant difference among thevariances. Furthermore, the F value is 179.914 with p value of 0.00, hence it can be stated that the null hypothesis is rejected, therefore it is concluded that there is a difference between among group of means between implementing HR analytics and improving talent acquisition in the organisation

Conclusion

The process of grasping how to efficiently manage one's personnel in order to achieve one's organization's objectives may be made much easier with the help of HR analytics, which have as their primary aim the simplification of this process. Because there is so much information available, it is essential for departments that deal with human resources to priorities determining which data is essential in addition to figuring out how to use it in order to get the highest possible return on investment. Because there is so much information available, it is essential for departments that deal with human resources to priorities establishing which data is essential.

First, organizations need to gather data, and only then can they put that data to use in the form of actionable development and decision-making. Only then can understand whether the HR analytics have a significant influence on the HR department. Several businesses have recognized the value of data as a tool that may aid them in the process of discovering people who have genuine potential and leasing them as employees. Companies are spending money to purchase technologies for human resource analytics, and they are employing individuals who have received training to help them extract and analyze the data.

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