Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 5 Issue 1 (2025)

Unveiling the Nexus: Exploring HR Professionals' views on HR Analytics

Dr.R.Rangarajan [a] and J.Rubasree [b]
[a] Professor, Department of Commerce, University of Madras
[b] Full-Time Research Scholar, Department of Commerce, University of Madras

Abstract

This study investigated the general views , benefits and challenges of HR analytics in performance management. The benefits as well as challenges of integrating HR analytics into performance management are the primary subject matter of this study. Using an online questionnaire as the data collecting tool, the study employed the quantitative research approach. 215 responses in all from human resources professionals in the various industries have been gathered. This study looks at the usage of HR analytics in performance management analysis and challenges that HR professionals encounter. The study concludes that there are possibilities for advantages like monitoring and evaluating employees' performance, better decision-making, more transparency and cost effectiveness, but there are also drawbacks like implementation difficulties , data-related issues and lack of skilled persons in the usage of HR analytics in performance management.

Keywords - HR Analytics, HR Professionals, Evaluating employees and Performance Management

An Overview

The majority of people view human resources as a people-centered function. However, human resource analytics (HR analytics) can disprove the notion that the HR department's contributions are restricted to handing out offer letters and orienting new personnel. Analytics may revolutionize HR operations when applied strategically, providing the team with information and enabling it to actively and significantly improve the bottom line of the company.

In order to analyze and understand HR-related data in a variety of domains, such as employees trends, turnover of workers, and recruiting, HR analytics use data and methods based on statistics.

By determining areas for improvement and assessing the efficacy of HR initiatives and policies, HR analytics seeks to enhance the organization's decision-making procedures.

For HR professionals, HR analytics is a great tool that helps them make well-informed decisions regarding their staff.

Businesses may gain a better understanding of their workforce and pinpoint areas for development by examining data on important topics like employee performance, hiring and training, turnover, and other HR-related indicators.

Organizations may lower turnover rates and enhance their efforts to retain employees, for instance, by examining data on employee turnover to find patterns and trends.

Similar to this, organizations may find methods to reduce excessive expenses, streamline their hiring and training procedures, and assist organization in identifying best practices to implement in their everyday operations by examining data on these expenses.

By examining data from other businesses, human resources professionals may identify the best HR policies and practices and apply them to their own organization, enhancing overall performance and giving it a competitive edge.

Organizations would be able to hold onto their best talent, compensation them appropriately, and enhance employee performance if they could figure out high-performing employees by routinely evaluating and analyzing performance data, perhaps on a monthly or every bi-monthly basis, and then offering them with the necessary professional development.

Four categories of HR analytics:

Descriptive analytics: Examines past data to determine what has transpired in the workforce within a given time frame.

Diagnostic analytics: Analyses data to determine the reasons for historical occurrences and actions in the HR field.

Predictive analytics: Makes predictions about prospective HR events and worker behavior using statistical techniques and estimates based on previous and present information.

Prescriptive analytics: Makes suggestions on how to deal with upcoming HR issues and problems by examining possible results and scenarios.

Aim of the Study

- To examine the HR professionals' general perspectives and views on HR analytics.
- To research the benefits of performance management with HR analytics.
- To investigate the challenges that HR analytics provide for performance management.
- To determine the impact of HR professionals' views on HR analytics on the satisfaction and effectiveness of HR analytics in performance management.

Hypothesis

Alternative Hypothesis H_1 - Organizations tracking and monitoring employees' performance have significant effect on HR analytics benefits in performance management.

Alternative Hypothesis H_2 - Resistance to Change among employees or management have significant effect on HR analytics challenges in performance management.

Alternative Hypothesis H_3 - HR Professionals views on HR analytics in Performance Management is positively related to Satisfaction and Effectiveness of HR analytics.

Alternative Hypothesis H_4 - There is a significant relationship between age of HR professionals and challenges of HR Analytics in performance management.

Alternative Hypothesis H_5 - There is a significant association between Demographic Profile of HR professionals and benefits of HR analytics and challenges of HR analytics in performance management.

Literature Reviews

Hritik Kale et al. (2022) studied about HR analytics, its tools, and its application in different organizations. In this study various use of HR Analytics in different organizations and the benefits of the use of HR Analytics is discussed. Analytical tools helps the organizations to recognize the issues like performance, employee turnover and retention employee behavior, etc by using the data available with the organization. The use of HR is undermined in many organizations but in this modern technological world various analytical tools have been developed which are used by huge corporations. This paper focused on uses of HR Analytics in 5 different organizations. Secondary data is data collected from previous researches. The Study concluded that HR practices could be used to change traditional roles to transformational roles in organizations. The study tries to explore and understand the role of analytics in this modern era. Increase of expectation in performance has put the focus on HR Analytics to create a new innovative and competitive world at work.

Premlal Prejith & Praveen Kumar (2022) investigated the impact of Human Resource (HR) analytics on the employees' satisfaction and willingness on Performance Appraisal (PA) for enhancing their performance in the Information technology (IT) sector. The paper conducts a quantitative study by analyzing a sample of 145 expertise, qualified, and knowledgeable employees in the IT sector of Kerala. The hypotheses were verified using statistical, regression, and ANOVA tests. From the findings, it is evident that the Performance Appraisal practices accomplish a straight and positive impact on the performance of IT employees' job satisfaction and willingness. HR analytics possesses a negative relationship among subjectivity bias in the Performance Appraisal framework and a positive impact on the improvisation of employees' perception of satisfaction and fairness.

Ganga Naga Saroj Bandi et al. (2021) explored the importance of Data Analytics tools in Human Resource management. Data analytics, Business analytics are new terminology in business predicative analytics are very important in every organization. HR analytics concepts very useful for measuring employee performance, informed decisions about salary and promotions, to increase employee retention, Examining the employee engagement, measuring the employee developments and learning outcome. By using Statistical tool ANOVA the study concluded that there is significant difference between various levels HR Roles in the organization

Kuriakose (2021) studied the importance of Human Resource Analytics in managing the human resource of the organizations and whether it provides a competitive edge. In addition, the exploratory research made gave insights into the competitive edge derived by the organizations and its impact on Business Goals, increasing interest shown by many organizations in HR Analytics and the various methods used by them as evidence based approach for making strategic decisions which in turn has helped them in achieving the set Business Goals.

Gupta et al.(2020) aims to remove subjectivity from the performance appraisal process through data analytics. This paper lists down all the biases that affects the ratings of an employee and develop methods that flag off those potential biases. This paper uses statistical parameters, statistical tools as well as parametric tests to devised methods to quantify the identified biases. This study considered weighted average ratings given by a manager to its subordinates over the period of years and utilized it to classify the consistent behavior of the manager into several biases. The distribution pattern of ratings given to employees by most of the managers shows highly negative skewed normal distribution curve indicating the presence of leniency as well as central tendency bias. This paper provides implications for all the people associated with the performance management area for reducing the subjectivity in the appraisal process using data analytics and for future researchers to test and analyze the suggested methods for different organizational settings. The paper offers insights about employee performance data that can be used to identify different existing biases in performance appraisal system by suitable analytical methods and thus contributing in making a more transparent, more objective and a more effective Performance Appraisal System.

Muhammad Asif Qureshi et al. (2020) examined the combined effects of HR Involvement, Performance Pay practices and HR Analytics in determining job satisfaction (JOS). This study further investigated the influence of HR analytics, job satisfaction and HR involvement in driving organizational performance. The results of partial least square structural equation modelling confirm that HR analytics, performance pay practices and HR involvement have positively and significantly impact on job satisfaction. Partial least square equation modelling demonstrated that HR analytics, HR involvement and Job satisfaction have a positive and significant impact on firm performance in multinational firms of Malaysia. Technical speaking, the results of partial least square modeling affirm that the three components, i.e., HR analytics, performance pay, and HR involvement are significantly and positively impact on firm performance in different multinational firms in Malaysia. The Study suggested that HR analytics, HR involvement and job satisfaction are positive and significant contributors to enhance the performance of multinational firms in Malaysia.

Udhay Kailash & Prathyusha (2020) examined the use of HR analytics in improving company performance by reducing workforce costs, improving the quality of recruitment, improving talent management and employee engagement, and generally improving productivity. It had become as important decision-making tool supporting the HR processing with supporting data. This paper is a qualitative study with MNC Pharma organization. This study explores the extent of the usage of HR Analytics for predictive decision making in the organization and discussed about HR digitalization paved way for HR analytics. This paper also discussed different HR Analytics widely used for decision making.

Varma & Chavan (2020) explored the importance of HR Analytics and its application in different functions of HRM. To draw analytics on the given data and to achieve the set objectives statistical test was conducted. As per the data available a conceptual outline was developed establish the relationship between the employee turnover and the details available so as to draw meaningful analytics. The study tries to explore and understand the role of analytics in this transition of HR role from traditional to modern business times. The study concluded that HR to adapt the new role of creating an innovative, talent nurturing and competitive world at work. HR needs to look forward to leveraging this transformational change. To execute this role effectively, HR generalists need considerable support.

Kamel Barbar et al. (2019) investigated the impact of HR analytics on the training and development strategy of private organizations in Lebanon. The study relied on a quantitative correlational research method with the help of an online questionnaire as the data collection instrument. A total of 302 respondents from the private sector in Lebanon returned valid responses to the questionnaire. The results revealed that HR professionals rely on HR analytics to formulate

employee development strategies. Data from HR analytics is used to predict potential outcomes of important HR and organization strategy decisions. In conclusion, the findings from this study imply that businesses should integrate HR professionals and HR analytics into the process of decision making and development strategy formulation.

Andrew Mayo (2018) summarized the different areas of talent management and HR metrics and analytics. The paper first discusses the application of metrics and analytics data about individuals, the effectiveness and efficiency of talent processes and the extent of the supporting culture. This paper is based mostly on the writing, models and concepts of previous researches. The Study concluded that definition of talent should not be confined to senior leadership only, nor be fully inclusive of every employee, but organizations need to define those individuals and groups where some specific attention will benefit the organization. It is as important to understand the potential of all employees as it is to assess their performance. This is a practical paper giving guidance to talent managers in organizations on application and utilizing people analytics.

Anshu Sharma & Tanuja Sharma (2017) explored the role of HR analytics on employees' willingness to improve performance. The paper examined issues related to performance appraisal system which impact employees' willingness to improve performance and HR analytics potential to deal with such issues. The paper develops a conceptual framework along with propositions by integrating both academic and practitioner literatures, in the field of HR analytics and performance management. The paper proposes that the use of HR analytics will be negatively related to subjectivity bias in performance appraisal system, thereby positively impacting employees' perceived accuracy and fairness. This further, positively impacts employees' satisfaction with the performance appraisal system, which subsequently increases employees' willingness to improve performance.

Research Methodology

This study employs a descriptive research design to explore the perspectives of HR professionals on HR analytics in performance management. The research focuses on general perception and views of HR professionals, identifying the benefits and challenges of implementing HR analytics in organizational settings. Data were collected exclusively through a structured questionnaire distributed to 215 HR professionals across various industries. The questionnaire consisted of carefully designed closed-ended questions to gather quantitative data on key aspects of HR analytics, perceived benefits and challenges. The structured format ensured consistency and comparability of responses. The data collection process targeted HR professionals with direct exposure to HR analytics and performance management to ensure relevant and reliable insights.

A purposive sampling method was adopted to select participants who met specific criteria, such as experience in HR analytics and their roles in performance management processes. This approach ensured that the sample was representative of individuals with the requisite expertise to provide meaningful responses. The collected data were analyzed using statistical tools, including descriptive statistics, one sample T-test, Anova, Linear Regression, Chi-square to summarize the findings and inferential techniques where applicable. The analysis aimed to identify views of HR professionals related to the use and effectiveness of HR analytics.

Ethical considerations were integral to the research design. Respondents were informed about the purpose of the study, and their consent was obtained before participation. Anonymity and confidentiality of all participants were strictly maintained to ensure ethical compliance and foster candid responses.

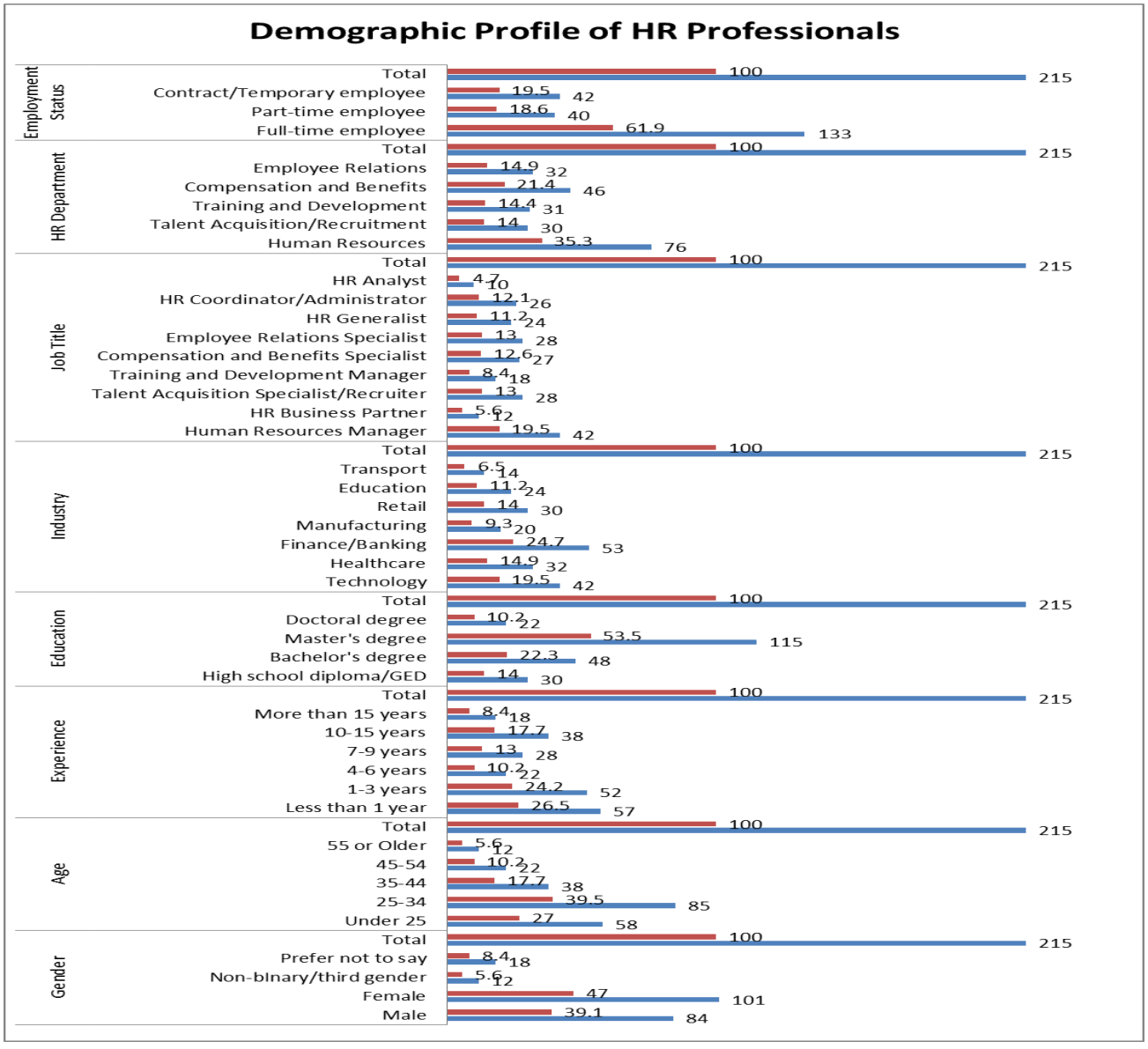
Limitations

This study has certain drawbacks even with its strong methodology. First off, a questionnaire was used for the sole purpose of gathering data, which means that participants' subjective interpretations or memory problems might add bias or mistakes in the replies. Second, although the purposive sample approach guarantees pertinent knowledge, it can restrict the findings' applicability to a larger group of HR professionals.

Furthermore, because the study is cross-sectional and only records insights at one particular moment in time, it could not take changing HR analytics trends and practices into consideration. Finally, the study mostly employs quantitative data, which, although thorough, could not adequately represent contextual or subtle elements affecting the use and efficacy of HR analytics.

Data Analysis and Interpretation

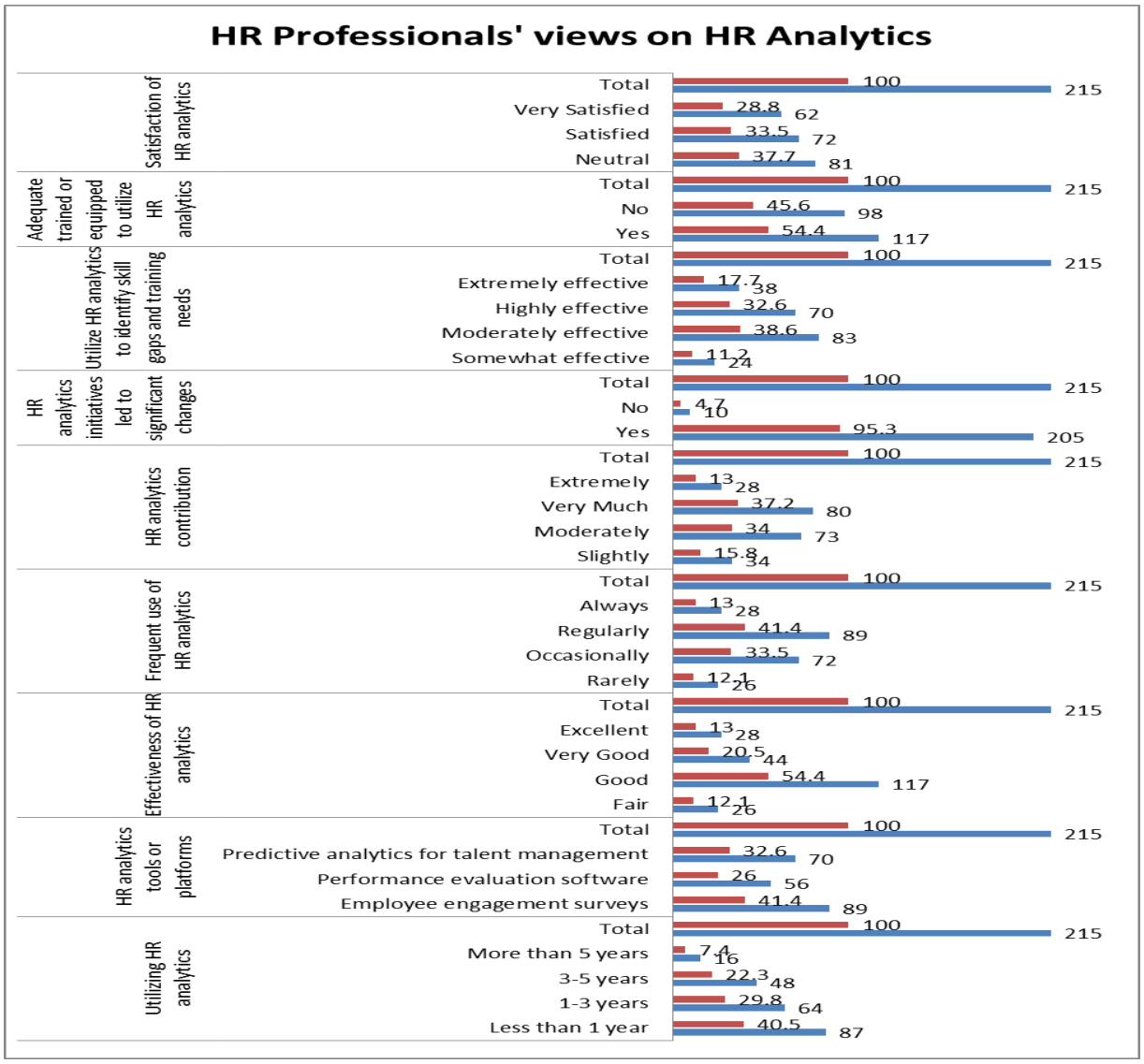
Figure 1 : Demographic profile of HR Professionals



Source: Primary Data

The majority of HR professionals in this survey are female (47%), most are between the ages of 25 and 34 (39.5%), most have less than a year of work experience (26.5%), many have master's degrees (53.5%), and the majority work in the banking or finance industry (24.7%). The majority of professionals have the position of HR manager. A small percentage of organizations separate their HR professionals who work for Talent Acquisition / Recruitment (14%), Training and Development (14.4%), Compensation and Benefits (21.4%), and Employee Relations (14.9%) from those who work for Human Resource Management (35.3%). The majority of HR professionals (61.9%) work full-time.

Figure 2: HR Professionals' views on HR Analytics



Source : Primary Data

The data mentioned above shows that the majority of HR professionals have been using HR analytics for less than a year (40.5%), the majority of professionals use the HR analytics platform for employee engagement surveys (41.4%), many professionals believe HR analytics is effective in their work (54.4%), HR professionals use HR analytics on a regular basis (41.4%), HR analytics contributes significantly (37.2%), and the majority of professionals agreed (95.3%) that HR analytics initiatives have resulted in significant changes. HR analytics can detect skill gaps and training needs with a modest degree of effectiveness (38.6%). According to the majority of HR professionals, only those who are properly taught and equipped can use HR analytics (54.4%). HR professionals' overall satisfaction with HR analytics is 37.7%, which is neutral.

Table 1: Benefits of HR Analytics in Performance Management

Benefits of HR Analytics	Mean	Std. Deviation
HR analytics provide data-driven insights that enables to make more informed decisions regarding performance evaluation, talent management, and workforce planning.	4.219	.7934

HR analytics allow organizations to track and monitor employee performance .	4.293	.7810
Analyzing HR data, organizations can proactively identify performance issues or potential areas for improvement, to take corrective actions.	4.200	.7984
HR analytics help to remove bias from performance evaluations by ensuring fair and consistent assessments.	4.228	.7483
HR analytics enable organizations to identify high-potential employees, assess skill gaps, and develop targeted strategies for talent development and succession planning.	4.172	.8771
HR analytics helps to understand employee preferences and tailor performance management strategies to better meet the needs of their workforce.	4.195	.8641
HR analytics can help organizations optimize resource allocation, reduce employee turnover, and improve productivity, leading to significant cost savings over time.	4.205	.8565
HR analytics allow organizations to align performance management initiatives with overall organizational objectives.	4.181	.8144
HR analytics facilitate ongoing monitoring and evaluation of performance management processes.	4.219	.7816
Organizations that effectively leverage HR analytics in performance management gain a competitive edge by maximizing the potential of their workforce.	4.172	.7873
Valid N (listwise)	215	

Source: Computed Data

Descriptive analysis of Benefits of HR Analytics in Performance Management are shown in the table above. The mean value which varied from 4.17 to 4.29 showed that employees' agreed to the statements. The statement " HR analytics allow organizations to track and monitor employees' performance (4.29) " was supported by many of the employees.

Table 2: Significance of Benefits of HR Analytics

Statement of Benefits of HR Analytics	Test Value = 3								
	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
								Lower	Upper
HR analytics allow organizations to track and monitor employee performance .	4.293	.7810	.0533	24.275	214	.000	1.2930	1.188	1.398

Source : Computed Data

A one - sample t-test showed a statistically reliable difference between the employees agreed with the statement " HR analytics allow organizations to track and monitor employees' performance " and small percentage of employees not agreed to the statements.

From the above table , depression score was statistically significantly lower by 1.29 (95% CI , 1.18 ,1.39) than a normal depression score 3.0 t(214) = 24.27, P = .000 . There is statistically significant difference between means (P < 1%) then we accept the alternative hypothesis i.e., Organizations tracking and monitoring employees' performance have significant effect on HR analytics benefits in performance management.

Table 3: Challenges of HR Analytics in Performance Management

Challenges of HR Analytics	Mean	Std. Deviation
Limited availability or quality of data for analysis	3.651	.9493
Resistance to change among employees or management	3.958	.7872
Lack of skilled personnel to analyze HR data effectively	3.800	.9130
Integration issues with existing HR systems or software	3.772	.8803
Concerns about data privacy and confidentiality	3.707	.9776
Difficulty in aligning HR metrics with organizational goals and objectives	3.781	.9291
Insufficient budget or resources allocated for HR analytics initiatives	3.786	.8969
Cultural barriers within the organization hindering acceptance of analytics-driven decision-making	3.800	.9027
Inadequate training and education on HR analytics for HR professionals and managers	3.805	.8024
Complexity in translating HR analytics insights into actionable strategies for performance improvement	3.670	1.0129
Valid N (listwise)	215	

Source : Computed Data

Descriptive analysis of Challenges of HR Analysis in Performance Management are shown in the table above. The mean value which varied from 3.65 to 3.95 showed that employees have neutral opinion to the statements. The statement " Resistance to change among employees or management (3.95) " is the most accepted challenge by the employees.

Table 4: Significance of Challenges of HR Analytics

Statement of Challenges of HR Analytics	Test Value = 3								
	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Resistance to change among employees or management	3.958	.7872	.0537	17.846	214	.000	.9581	.852	1.064

Source : Computed Data

A one-sample t-test showed a statistically reliable difference between the employees accepted with the statement " Resistance to change among employees or management " and few employees have not accepted the statement.

From the above table depression score was statistically lower 0.95 (95% CI, 0.85, 1.06) than a normal depression score 3.0 t(214) = 17.84, P = .000. There is statistically significant difference means (P < 1%) then we accept the alternative hypothesis i.e., Resistance to change among employees or management have significant effect on HR analytics challenges in performance management.

Table 5: Impact of HR Professionals views on utilizing HR Analytics to identify skill gaps and training needs on the Satisfaction of HR Analytics in Performance Management

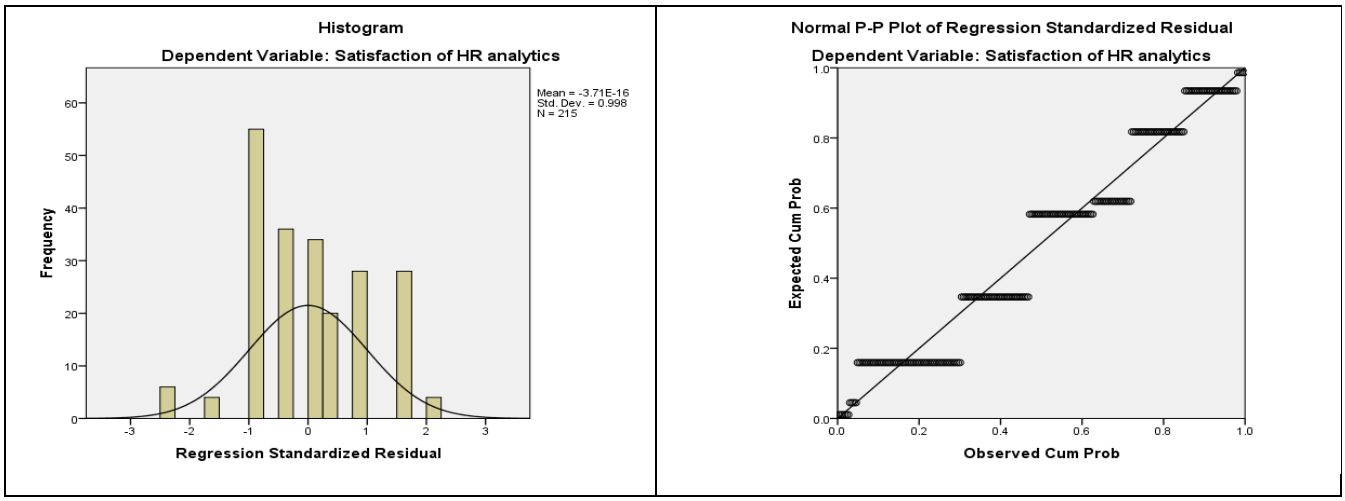
Variable	Utilizing HR analytics to identify skill gaps and training needs								
	R	R Square	Adjusted R Square	Unstandardized Co-efficient (B)	Std.Error of B	F	Beta	T	P

Satisfaction of HR Analytics	.764[a]	.584	.582	.683	.040	298.965	.764	17.291	.000

Source : Computed Data

The influence of Utilizing HR analytics to identify skill gaps and training needs on satisfaction of HR analytics is depicted in the above table. As a consequence with the positive unstandardized and standardized co-efficient values of satisfaction (0.68, 0.76) proves that there is positive correlation between Utilizing HR analytics to identify skill gaps and training needs and satisfaction of HR analytics. Positive co-efficient indicates values of utilizing HR analytics to identify skill gaps and training needs increases, the means of the satisfaction of HR analytics also increases. P value is .000 indicating that HR Professionals views of HR Analytics is positively related to satisfaction of HR analytics at 1% level.

Figure 3: Histogram of Regression Standardized Residuals



Source: Computed Data

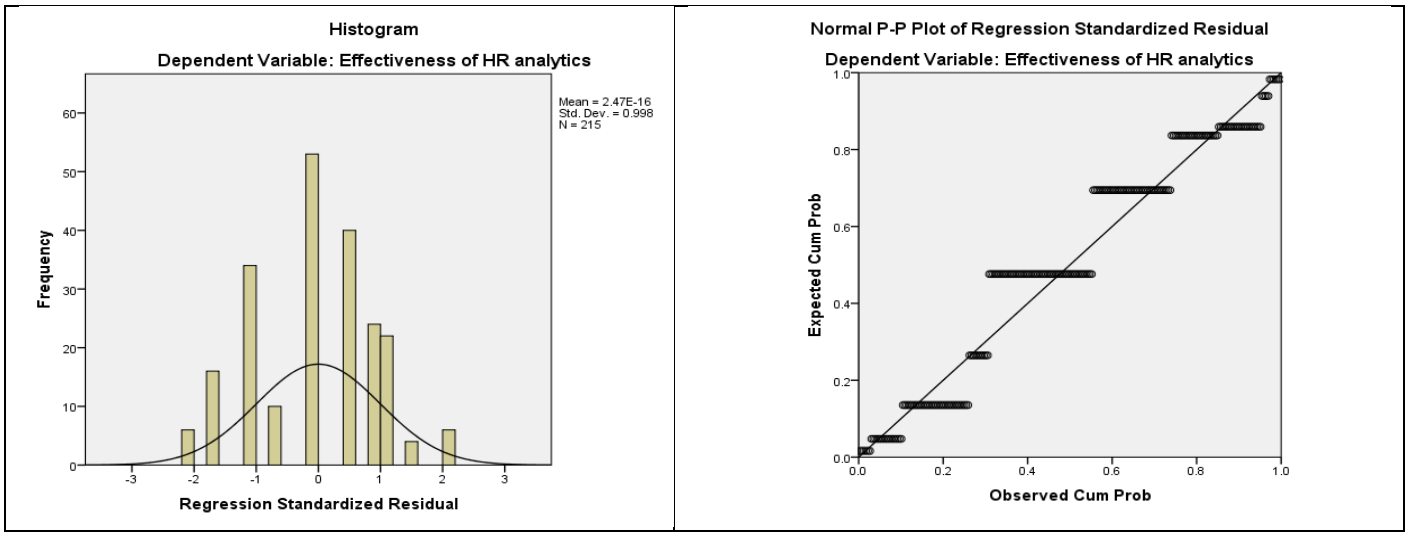
Since the independent residuals are within the normalcy assumption , Utilizing HR analytics to identify skill gaps and training needs as well as dependent variable according to Figure 3, Satisfaction of HR analytics has a uniform distribution and yields an equilibrium are from the regression standardized residuals histogram.

Plots of regression standardized residuals visually represents the relationship between Utilizing HR analytics to identify skill gaps and training needs and satisfaction of HR analytics in performance management. The line slopes upwards indicates a positive relationship. Points are tightly clustered around the straight regression line, it indicates a strong relationship.

Table 6: Impact of HR Analytics Contributions on the Effectiveness of HR Analytics in Performance Management

Variable	**HR Analytics Contribution**								
	R	**R Square**	**Adjusted R Square**	**Unstandardized Co-efficient (B)**	**Std.Error of B**	**F**	**Beta**	**T**	**P**
Effectiveness of HR analytics	.689[a]	.475	.472	.647	.047	192.57	.689	13.87	.000

Figure 4: Histogram of Regression Standardized Residuals & Plot of Regression Standardized Residuals



Source : Computed Data

The impact of HR Analytics Contributions on the Effectiveness of HR Analytics is depicted in the above table. As a consequence with the positive unstandardized and standardized co-efficient values of satisfaction (0.64, 0.68) proves that there is positive correlation between HR Analytics Contributions on the Effectiveness of HR Analytics. Positive co-efficient indicates values of HR Analytics Contributions increases the means of Effectiveness of HR Analytics also increases. P value is .000 indicating that there is a statistically significant impact of HR Analytics Contributions on the Effectiveness of HR Analytics in performance management.

Since the independent residuals are within the normalcy assumption , HR Analytics Contributions as well as dependent variable according to Figure 5, Effectiveness of HR Analytics has a uniform distribution and yields an equilibrium are from the regression standardized residuals histogram.

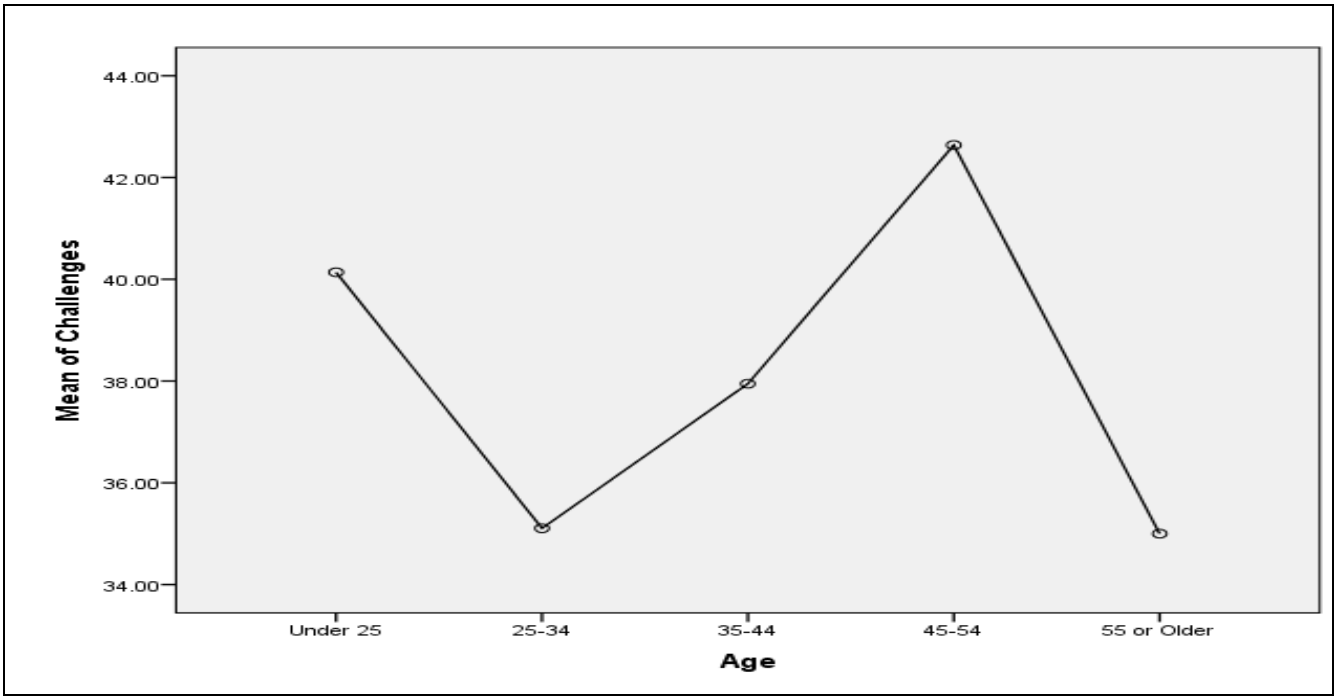
Plots of regression standardized residuals visually represents the relationship between HR Analytics Contributions and Effectiveness of HR Analytics in performance management. The line slopes upwards indicates a positive relationship. Points are tightly clustered around the straight regression line, it indicates a strong relationship.

Table 7: Significance of Age of HR Professionals and Challenges of HR Analytics

Age of HR Professionals	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Under 25	58	40.1379	8.43021	1.10694	37.9213	42.3545
25-34	85	35.1059	6.80690	.73831	33.6377	36.5741
35-44	38	37.9474	7.19965	1.16794	35.5809	40.3138
45-54	22	42.6364	3.55294	.75749	41.0611	44.2116
55 or Older	12	35.0000	1.04447	.30151	34.3364	35.6636
Total	215	37.7302	7.38790	.50385	36.7371	38.7234

Age of HR Professionals		Sum of Squares	df	Mean Square	F	Sig.
Challenges of HR Analytics	Between Groups	1542.424	4	385.606	7.988	.000
	Within Groups	10137.929	210	48.276		
	Total	11680.353	214			

Figure 5: Means Plots Age of HR Professionals and Challenges of HR Analytics



Source: Computed Data

The table above reveals that P-value is significant ($p \leq 0.05$) , it indicates that there is statistically significant difference in the Challenges of HR analytics across the different age groups of HR professionals.

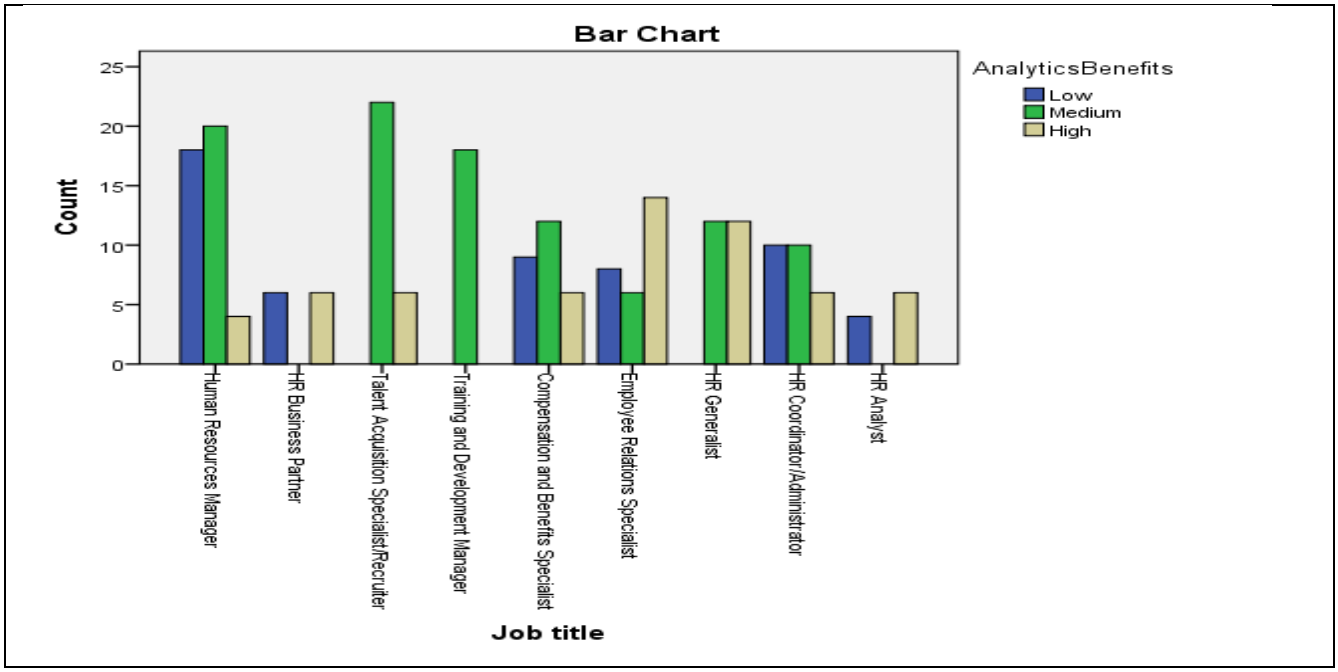
In the Figure 4 Means plots provides a visual representation of the average scores for each age groups. Points on the plots corresponds to the mean value of the challenges of HR analytics in performance management faced by different age groups.

By examining the relative positions of the points 45-54 years age group of HR professionals have highest score points which visually highlights that they face more challenges of HR analytics among the groups.

Table 8: Cross Tabulation of Association between Job Title of HR Professionals and Benefits of HR Analytics

Job Title	Benefits of HR Analytics			Total	Chi Square Value (p- value)
	Low	Medium	High		
Human Resources Manager	18	20	4	42	**86.520[a] (.000)**
HR Business Partner	6	-	6	12	
Talent Acquisition Specialist/Recruiter	-	22	6	28	
Training and Development Manager	-	18	-	18	
Compensation and Benefits Specialist	9	12	6	27	
Employee Relations Specialist	8	6	14	28	
HR Generalist	-	12	12	24	
HR Coordinator/Administrator	10	10	6	26	
HR Analyst	4	-	6	10	
Total	55	100	60	215	

Figure 6: Association between Job Title of HR Professionals and Benefits of HR Analytics



Source : Computed Data

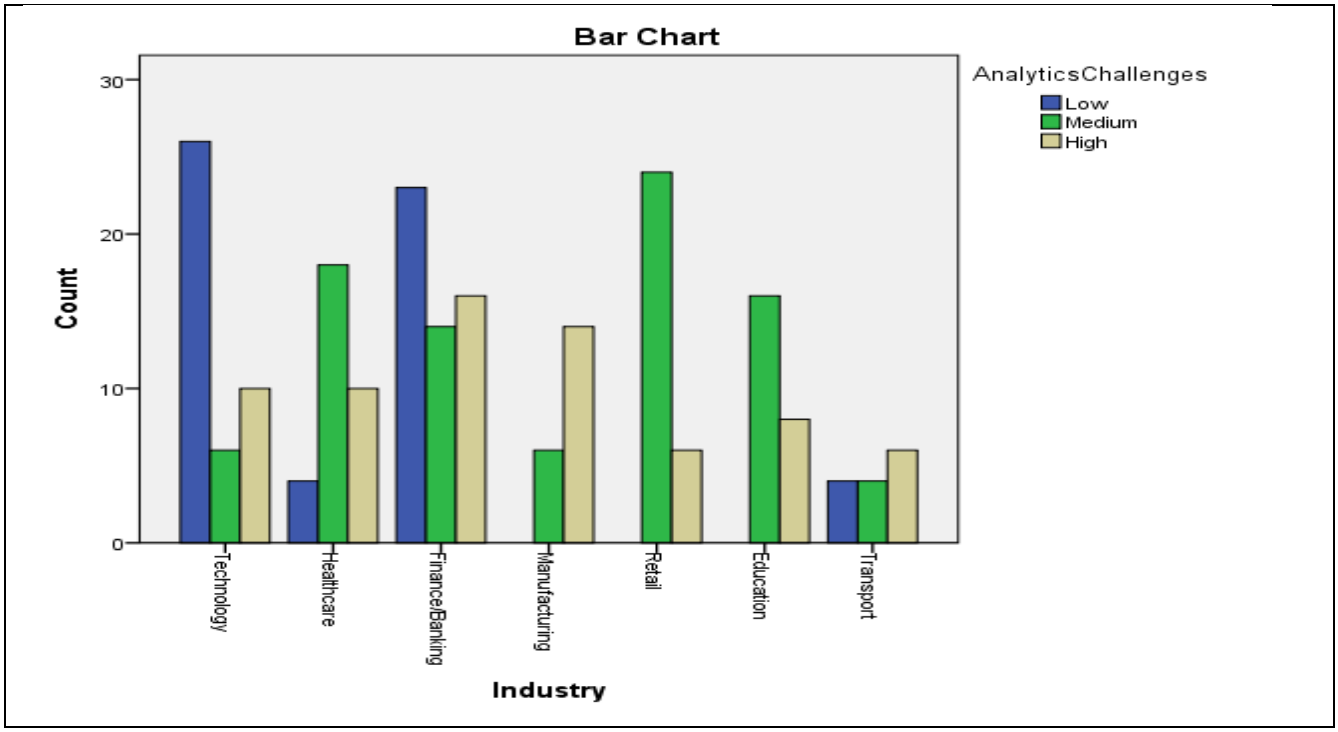
The benefits level of HR analytics in performance management associated with job title of HR professionals is demonstrated in the above table and figure. Majority of 42 HR professionals are job titled as Human Resource Managers and among them 20 professionals have agreed to medium level of benefits. From the total of 215 HR professionals majority of 100 HR professionals have agreed to medium level of benefit, 60 HR professionals have agreed to high level of benefit and 55 HR professionals have agreed to low level of benefit. According to chi-square (86.520[a]), p= .000 at the 1% level , there is strong association between job title of HR professionals and benefits of HR analytics in performance management.

Table 9 : Cross Tabulation of Association between Industries of HR Professionals and Challenges of HR Analytics

Industry	Challenges of HR Analytics			Total	Chi Square Value (p- value)
	Low	Medium	High		
Technology	26	6	10	42	**87.202[a] (.000)**
Healthcare	4	18	10	32	
Finance/Banking	23	14	16	53	
Manufacturing	-	6	14	20	
Retail	-	24	6	30	
Education	-	16	8	24	
Transport	4	4	6	14	
Total	57	88	70	215	

Source : Computed Data

Figure 7: Association between Industries of HR Professionals and Challenges of HR Analytics



Source : Computed Data

The challenges level of HR analytics in performance management associated with Industries of HR professionals is demonstrated in the above table. Majority of 53 HR Professionals are working in Finance/Banking industry and among them 23 HR professionals have agreed to low level of challenges. From the total of 215 HR professionals majority of 88 HR professionals have agreed to medium level of challenges, 70 HR professionals have agreed to high level of challenges and 57 HR professionals have agreed to low level of challenges. According to chi-square (87.202^{a}), p= .000 at the 1% level , there is strong association between industries of HR professionals and challenges of HR analytics in performance management.

Findings and Result

- Majority of HR professionals in this survey are female (47%), most are between the ages of 25 and 34 (39.5%), most have less than a year of work experience (26.5%), many have master's degrees (53.5%), and the majority work in the banking or finance industry (24.7%). The majority of professionals have the position of HR manager. A small percentage of organizations separate their HR professionals who work for Talent Acquisition / Recruitment (14%), Training and Development (14.4%), Compensation and Benefits (21.4%), and Employee Relations (14.9%) from those who work for Human Resource Management (35.3%). The majority of HR professionals (61.9%) work full-time.
- Majority of HR professionals have been using HR analytics for less than a year (40.5%), the majority of professionals use the HR analytics platform for employee engagement surveys (41.4%),many professionals believe HR analytics is effective in their work (54.4%), HR professionals use HR analytics on a regular basis (41.4%), HR analytics contributes significantly (37.2%), and the majority of professionals agreed (95.3%) that HR analytics initiatives have resulted in significant changes. HR analytics can detect skill gaps and training needs with a modest degree of effectiveness (38.6%). According to the majority of HR professionals, only those who are properly taught and equipped can use HR analytics (54.4%). HR professionals' overall satisfaction with HR analytics is 37.7%, which is neutral.
- The mean value which varied from 4.17 to 4.29 showed that employees' agreed to the statements. The statement " HR analytics allow organizations to track and monitor employees' performance (4.29) " was supported by many of the employees.

- Depression score was statistically significantly lower by 1.29 (95% CI , 1.18 ,1.39) than a normal depression score 3.0 t(214) = 24.27, P = .000 . There is statistically significant difference between means (P < 1%) then we accept the alternative hypothesis i.e., Organizations tracking and monitoring employees' performance have significant effect on HR analytics benefits in performance management.
- The mean value which varied from 3.65 to 3.95 showed that employees have neutral opinion to the statements. The statement " Resistance to change among employees or management (3.95) " is the most accepted challenge by the employees.
- Depression score was statistically significantly lower by 1.29 (95% CI , 1.18 ,1.39) than a normal depression score 3.0 t(214) = 24.27, P = .000 . There is statistically significant difference between means (P < 1%) then we accept the alternative hypothesis i.e., Organizations tracking and monitoring employees' performance have significant effect on HR analytics benefits in performance management.
- P value is .000 indicating that HR Professionals views on utilizing HR Analytics to identify skill gaps and training needs is positively related to satisfaction of HR analytics at 1% level.
- P value is .000 indicating that there is a statistically significant impact of HR Analytics Contributions on the Effectiveness of HR Analytics in performance management.
- P-value is significant ($p \leq 0.05$) , it indicates that there is statistically significant difference in the Challenges of HR analytics across the different age groups of HR professionals.
- According to chi-square (86.520^a), p= .000 at the 1% level , there is strong association between job title of HR professionals and benefits of HR analytics in performance management.
- According to chi-square (87.202^a), p= .000 at the 1% level , there is strong association between industries of HR professionals and challenges of HR analytics in performance management.

Practical Implications

The findings of this research provide several practical implications for organizations seeking to use HR analytics to improve their performance management:

1. Improved Decision-Making: Organizations may apply HR analytics to make data-driven decisions in performance management, leading to more objective and equal appraisals of workers.

2. Targeted Interventions: HR analytics insights may assist in pinpointing certain areas where worker performance can be enhanced, allowing for more focused training and development initiatives.

3. Cost Efficiency: HR analytics may help save costs and improve resource allocation by maximizing personnel performance and uncovering inefficiencies.

4. Increased Employee Engagement: By eliminating prejudices and guaranteeing equity, transparent and data-supported performance management procedures may increase employee trust and engagement.

5. Scalability of Best Practices: Businesses may duplicate effective performance management techniques across divisions or business units by using HR analytics.

6. Proactive Issue Resolution: By detecting possible performance problems early on, predictive analytics enables proactive management and assistance.

Organizations may maximize the strategic benefit of HR analytics in promoting performance outcomes and overcome typical obstacles by implementing these ideas into effect.

Conclusion

This study emphasizes the general perception and views of HR analytics and focused on identifying the benefits and challenges of HR analytics in performance management. According to the opinions of 215 HR experts, there are possibilities for advantages like better decision-making, tracking employees performance, reduce employees turnover, to

assess skill gaps and cost effectiveness, but there are also drawbacks like lack of skilled person, resistance to change among employees, implementation difficulties and data-related issues. The strategic significance of HR analytics in developing data-driven and fair personnel management systems in evaluating employees is illustrated by these findings.

Organizations may use HR analytics to not just spot performance patterns but also to make proactive, fact-based choices that support organizational goals. Through the use of HR analytics, businesses may optimize resources, carry out focused interventions, and boost employee engagement. The paper offers insightful implications for HR professionals on the application of HR analytics to get over the conventional performance management obstacles.

Scope for Further Research

A number of directions for further research are worthwhile, even if this study offers valuable insights into the benefits and challenges of HR analytics in performance management. First, in order to explore whether HR analytics affect employee performance and organizational outcomes over the long run, longitudinal studies might be carried out. Such studies would offer a dynamic viewpoint on how HR analytics procedures change and affect businesses over time.

Second, future research might examine how HR analytics can include cutting-edge technology like machine learning and artificial intelligence. With a deeper comprehension of their uses and ramifications, these technologies have the potential to improve decision-making and prediction skills.

Furthermore, extending the study to incorporate qualitative techniques like focus groups and interviews may reveal more profound understandings of the cultural and contextual elements impacting the uptake and use of HR analytics. By collecting the complex viewpoints of stakeholders and HR experts, this method would enhance quantitative findings.

Lastly, to investigate the application of HR analytics in various industries and uncover best practices and sector-specific difficulties, cross-industry comparison studies might be conducted. This kind of study would increase the findings' ability to generalize and encourage the creation of customized tactics for various organizational settings.

Reference

1. Albliwi, S. A., Antony, J., Arshed, N., & Ghadge, A. (2017). International Journal of Quality & Reliability Management. *International Journal of Quality & Reliability Management*, *34*(4), 508–529.
2. Bandi, G. N. S., Rao, T. S., & Ali, S. S. (2021). Data Analytics Applications for Human Resource Management. *2021 International Conference on Computer Communication and Informatics, ICCCI 2021*, *January 2021*. https://doi.org/10.1109/ICCCI50826.2021.9402300
3. Barbar, K., Choughri, R., & Soubjaki, M. (2019). The Impact of HR Analytics on the Training and Development Strategy - Private Sector Case Study in Lebanon. *Journal of Management and Strategy*, *10*(3), 27. https://doi.org/10.5430/jms.v10n3p27
4. Gupta, P., Hudnurkar, M., & Ambekar, S. (2020). Hr-Analytics for Effective Performance Appraisal. *PalArch's Journal of …*, *17*(6), 4288–4308. https://www.archives.palarch.nl/index.php/jae/article/download/1684/1678
5. Johar, R. K. (2024). HR Analytics and its Impact on Organizations Performance. *Interantional Journal of Scientific Research in Engineering and Management*, *08*(04), 1–5. https://doi.org/10.55041/ijsrem32727
6. Kailash, U. (2021). Hr Analytics Methodical Measurement Of Hr Processes. *Elementary Education Online*, *20*(1). https://doi.org/10.17051/ilkonline.2021.01.713
7. Kalvakolanu, S., Chendragiri, M., & Shaik, K. (2023). Exploring the Adoption of Human Resource Analytics among Human Resource Professionals. *International Journal of Organizational Leadership*, *12*(4), 425–441. https://doi.org/10.33844/ijol.2023.60387
8. Kumar Rajbhar, A. (2017). A Study on HR Analytics Transforming Human Resource Management. *Journal of Investment and Management*, *6*(4), 92. https://doi.org/10.11648/j.jim.20170604.12

9. Kuriakose, A. (2021). Hr Analytics – Empowering Organizations. *Distance Education in Ukraine: Innovative, Normative-Legal, Pedagogical Aspects*, *1*, 35–45. https://doi.org/10.18372/2786-5495.1.15737
10. Mayo, A. (2018). Applying HR analytics to talent management. *Strategic HR Review*, *17*(5), 247–254. https://doi.org/10.1108/shr-08-2018-0072
11. Prejith, P., Psychology, P. K.-J. of P. S., & 2022, undefined. (2022). Impact Of HR Analytics On Performance Appraisal System For Employees' Satisfaction And Willingness To Improve Their Performance In IT Sector. *Journalppw.Com*, *2022*(8), 834–843. https://www.journalppw.com/index.php/jpsp/article/view/9818
12. Qureshi, M. A., Thebo, J. A., Rehman, S. ur, Shahbaz, M. S., & Sohu, S. (2020). The Role HR Analytics, Performance Pay and HR Involvement in influencing Job Satisfaction and Firm Performance. *International Journal of Advanced Science and Technology*, *29*(11s), 382–392.
13. Reddy, P. R., & Lakshmikeerthi, P. (2017). 'HR Analytics'-An Effective Evidence Based HRM Tool. *International Journal of Business and Management Invention ISSN*, *6*(October 2016), 23–34. www.ijbmi.org
14. Serrão, A. V., & Wesen, D. (2009). *¿ Q Ue S Íntomas T Iene ?* 4–5.
15. Sharma, A., & Sharma, T. (2017). HR analytics and performance appraisal system: A conceptual framework for employee performance improvement. *Management Research Review*, *40*(6), 684–697. https://doi.org/10.1108/MRR-04-2016-0084
16. Vadithe, R. N., & Kesari, B. (2023). Human Resource Analytics on Talent Acquisition: A Systematic Review. *Journal of Development Economics and Management Research Studies*, *10*(18), 30–39. https://doi.org/10.53422/jdms.2023.101803
17. Varma, C., Chandrahauns, D., & Chavan, R. (2019). A case of HR Analytics - to understand effect on employee turnover. *Journal of Emerging Technologies and Innovative Research*, *6*(6), 781–787. www.jetir.org

Websites

18. https://www.spiceworks.com/hr/hr-analytics/articles/what-is-hr-analytics/
19. https://www.chrmp.com/benefits-of-hr-analytics/
20. https://www.aihr.com/blog/types-of-hr-analytics/
21. https://www.researchgate.net/publication/378303025_Up-skilling_and_Re-skilling_A_Strategic_Response_to_Changing_Skill_Demands