The Role of HR Analytic in Decision Making to Transform Strategic Workforce

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Abstract

The developing business landscape has underlined the need of data-driven decision-making, notably in Human Resources (HR) management. Because it offers practical insights to enhance personnel management, employee engagement, and organizational effectiveness, HR analytics is essential to changing workforce strategy. The hypothesis that we solved are Chi- square, Anova and correlation. The number of respondents is 180.

I. INTRODUCTION

Today, the competitive and dynamic business climate is increasingly becoming dependent upon organizations in order to derive the necessary data driven insights in order to make well informed decisions that inform growth and innovation. Human resources, that is, analytics can have a very big impact on those strategic choices. It is the use of data analysis to manage and maximize human capital and as known as HR analytics, people analytics. By using data from all of these different HR operations — including hiring, performance management, employee engagement and talent development — employers can make decisions that reflect workforce strategies not only to meet business goals in the nearer future, but to shape and help anticipate future ones as well.

The use of HR analytics in determining decisions has changed business' approach to workforce management. There are all sorts of analytics which can be brought into HR decisions: analytics on the firm's industry dynamics, on its staffing levels and so on, but the strength of analytics has enabled HR to make choices which were previously made more or less on gut feeling and experience

II. OBJECTIVES OF THE STUDY

Primary Objective

- To understand the Importance of HR Analytics in Decision-Making

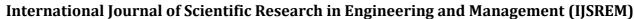### Secondary Objectives

- To Examine the Key Components of HR Analytics
- To Analyze HR Analytics' Role in Employee Engagement and Retention
- To Identify the Impact of HR Analytics on Workforce Planning and Optimization
- To Assess the Strategic Role of HR Analytics in Organizational Transformation

Need for the Study:

- The increasing understanding that data-driven insights are critical for contemporary HR practices is what motivates this study on the function of HR analytics in decision-making to transform the strategic workforce.
- HR analytics gives businesses the information they need to make well-informed decisions that match human capital with corporate goals as they deal with more complicated workforce issues like diversity, skill gaps, and talent shortages.
- This study is important because it examines how HR analytics not only increases operational efficiency but also influences strategic choices that can position organizations for long-term success in a business environment that is changing quickly.

- To improve employee performance, strengthen retention strategies, and create a more inclusive and productive work environment.

Scope of the Study:

- The study will concentrate on comprehending how HR analytics might assist with decision-making procedures that match more general corporate objectives with human capital strategies.
- This study will provide a foundation for the HR department to analyse and make decisions that are more economical and in favour of the employee.
- The application of predictive analytics to resource optimization, performance management, and workforce planning will be covered.
- The study will look into how HR analytics may support diversity, equity, and inclusion and how it can enhance company culture and employee well-being.
- To understand the difficulties HR professionals encounter when incorporating analytics into strategic workforce choices, as well as the potential of HR analytics in the future for responding to the changing business environment, will be considered.
- To know how HR analytics is changing workforce management and organizational decision-making will be offered by this study.

III. REVIEW OF LITERATURE:

- **Kaur (2025)** A study was conducted on the use of HR analytics to support workforce planning, what the author showed was that the use of predictive models and data analysis techniques can help in predicting future talent needs. It also stressed the need to train companies which rely on using historical workforce data and external factors to predict accurately the decision to anticipate skill gaps and allocate resources more efficiently.
- **McGuire, Gar avan,(2024),** emphasize on the importance of values on greater understanding of decision-making process. Better the self- realisation results in better decision making in an organisation. This study analysed the effect of the individual values of HR managers on HR decision-making. Decision making is essential for the existence and survival of organization.
- **Khan, (2024)** It asserts that through a judicious application of HR analytics, public personnel management can effectively leverage data to improve decision making and realizing strategic objectives congruent with public service goals,

a limitation of HR must be surmounted and the strength of the HR potentials must be maximized.

- **Kaliannan, et al., (2023)** highlights the important influence of data integration in HR analytics since it provides a whole knowledge of labor dynamics, so improving its seeming trustworthiness. The dynamics of the business is operating and also it enhances it to replicate the operations of it go further and assist further.

IV. RESEARCH METHODOLOGY:

Research methodology is mainly needed for the purpose of framing the research process and the designs and tools that are to be used for the project purpose. Research methodology helps to find the role of HR analytic in decision making to transform strategic workforce

V. RESEARCH DESIGN:

Descriptive research design is a technique applied to systematically describe a phenomenon, population, or situation without intervening with variables. It gives a true picture of prevailing conditions, enabling researchers to examine patterns, trends, and relationships. This method is commonly applied in social sciences and business research to gain insight into behaviour, opinions, and traits. It encompasses techniques such as surveys, observations, case studies, and correlational studies to gather both qualitative and quantitative data. By depicting the state of affairs as they are, descriptive research facilitates the comprehension of past trends, evaluation of the current situation, and forecasting future results, thereby making it an effective tool for informed decision-making
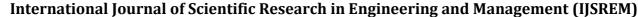
Sampling technique

Convenience sampling method

A convenience sample is one of the main types of non-probability sampling methods. A convenience sample is made up of people who are easy to reach.In this method, the sample is drawn from a part of the population that is close at hand—for example, friends, colleagues, classmates, or people in a specific location. While convenience sampling is easy to implement and cost-effective, it has significant limitations, including a high risk of bias and lack of generalizability.

VI. SOURCES OF DATA:

Primary Data:

Primary data is that data which is collected for the first time. These data are basically observed and collected by the researcher for the first time. I have used primary data for my project work. It is collected through Structured Questionnaire

Secondary Data:

Secondary data are those data which are primarily collected by the other person for his own purpose and now we use this for our purpose. It is collected through journals, articles, books, foot notes, etc.

Sample size

The number of elements of the population is to be sampled. Total sample size for the research study is 180.

Tool used for the study:

Statistical Tools:

- Chi-square test.
- Anova
- Correlation
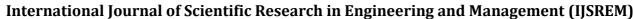
Chi square:

Hypothesis 1

H_0(Null hypothesis): There is no significant difference between HR analytics is frequently used in your organization and HR analytics currently being used to support work transformation efforts

H_1(Alternate hypothesis): There is a significant difference between HR analytics is frequently used in your organization and HR analytics currently being used to support work transformation efforts.

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
HRanalyticsisfrequentlyusedinyourorganization * HRanalyticscurrentlybeingusedtosupportwork	180	100.0%	0	0.0%	180	100.0%

HRanalyticsisfrequentlyusedinyourorganization * HRanalyticscurrentlybeingusedtosupportwork Crosstabulation							
Count							
		HRanalyticscurrentlybeingusedtosupportwork					
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
HRanalyticsisfrequently usedinyourorganization	Strongly Agree	30	14	10	3	4	61
	Agree	14	37	16	5	5	77
	Neutral	6	10	13	2	0	31
	Disagree	2	1	1	0	0	4
	Strongly Disagree	2	0	3	1	1	7
Total		54	62	43	11	10	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	33.153[a]	16	.007
Likelihood Ratio	35.771	16	.003
N of Valid Cases	180		
a. 16 cells (64.0%) have expected count less than 5. The minimum expected count is .22.			

Inference:

Since the p value (0.007) is more than 0.05. we accept Null hypothesis and we reject Alternative hypothesis. So, there is no significant difference between HR analytics is frequently used in your organization and HR analytics currently being used to support work transformation efforts
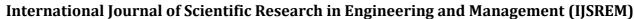
Hypothesis 2

H0(Null hypothesis): There is no significant difference between agree with the level of feedback you receive on your performance and agree your organization actively track employee retention rates

H1(Alternate hypothesis): There is a significant difference between agree with the level of feedback you receive on your performance and agree your organization actively track employee retention rates

Descriptives

A greewiththeleveloffeedbackyoureceiveonyourperformance

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Strongly agree	38	2.53	1.330	.216	2.09	2.96	1	5
Agree	38	2.53	1.179	.191	2.14	2.91	1	5
Neutral	44	3.16	1.380	.208	2.74	3.58	1	5
Disagree	25	3.28	1.021	.204	2.86	3.70	1	5
Strongly disagree	35	3.51	1.616	.273	2.96	4.07	1	5
Total	180	2.98	1.382	.103	2.77	3.18	1	5

ANOVA

agreewiththeleveloffeedbackyoureceiveonyourperformance

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	29.295	4	7.324	4.100	.003
Within Groups	312.617	175	1.786		
Total	341.911	179			

Inference:

Since the p value (0.003) is lesser than 0.05. we accept Alternative hypothesis and we reject Null hypothesis. So, There is a significant difference between agree with the level of feedback you receive on your performance and agree your organization actively track employee retention rates

Correlation:

Hypothesis 3

H0(Null hypothesis): There is no significant difference between important is HR analytics in supporting strategic decision-making in your organization and organization's goals and objectives clearly defined when making strategic decisions.

H1(Alternate hypothesis): There is a significant difference between important is HR analytics in supporting strategic decision-making in your organization and organization's goals and objectives clearly defined when making strategic decisions

Descriptive Statistics

	Mean	Std. Deviation	N
importantisHRanalyticsinsupportingstrategicdecisiomaking	2.36	1.151	180
organizationgoalsandobjectivesclearlydefinedwhenmaking	2.16	1.063	180

Correlations

		importantisHRanalyticsinsupportingstrategicdecisiomaking	organizationgoalsandobjectivesclearlydefinedwhenmaking
importantisHRanalyticsinsupportingstrategicdecisiomaking	Pearson Correlation	1	.236[**]
	Sig. (2-tailed)		.001
	N	180	180
organizationgoalsandobjectivesclearlydefinedwhenmaking	Pearson Correlation	.236[**]	1
	Sig. (2-tailed)	.001	
	N	180	180

Correlations				Important is HR analytics in supporting strategic decision making	Organization goal sand objective sclearly defined when making
Kendall's tau_b	Important is HR analytics in supporting strategic decision making		Correlation Coefficient	1.000	.243**
			Sig. (2-tailed)	.	.000
			N	180	180
	Organization goals and objectives clearly defined when making		Correlation Coefficient	.243**	1.000
			Sig. (2-tailed)	.000	.
			N	180	180
Spearman's rho	Important is HR analytics in supporting strategic decision making		Correlation Coefficient	1.000	.276**
			Sig. (2-tailed)	.	.000
			N	180	180
	Organization goals and objectives clearly defined when making		Correlation Coefficient	.276**	1.000
			Sig. (2-tailed)	.000	.
			N	180	180
**. Correlation is significant at the 0.01 level (2-tailed).					

Inference

Since the p value (0.243) is more than 0.05. We accept Null hypothesis and we reject Alternative hypothesis.
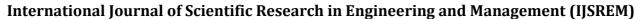So, there is no significant difference

between important is HR analytics in supporting strategic decision-making in your organization and organization's goals and objectives clearly defined when making strategic decision

Findings:
- (51.7%) of the respondents are male
- (47.2%) of the respondents are below 18-25
- (61.1%) of the respondents who are single
- (34.4%) respondents have completed UG
- (41.1%) respondents have 2-5 years of experience
- (42.2%) respondents' say strongly agree and the least (1.7%) say strongly disagree to organization currently use HR analytics tools
- (42.2%) respondents' say agree to HR analytics and the least say (2.2%) is frequently used in your organization
- Majority (36.1%) respondents' say agree and the least (4.4%) say strongly disagree to HR analytics currently being used to support work transformation efforts

- (40%) respondents say agree and the least (2.2%) disagree say to organization conducted groundwork on their inputs in the analytics journey
- (45%) respondents say neutral and the least (8.3%) say disagree to HR team has enough technological capacity
- (32.8%) respondents say neutral and the least (2.8%) say strongly disagree to job responsibilities and expectations
- (36.7%) respondents say agree and the least (5%) say strongy disagree to feel your work is valued by the organization
- (36.7%) respondents say neutral and the least (9.4%) say disagree to opportunities to learn and grow in your role
- (32.2%) respondents say neutral and the least (10.6%) say disagree to level of feedback you receive on your performance
- Majority (22.8%) respondents say agree and the least (12.2%) say disagree to organization actively track employee retention rates
- Majority (30.6%) respondents say they strongly agree and the least(5%) say strongly disagree to organization set retention rate goals or targets
- (32.3%) respondents say they agree and the least (5.6%) say strongly disagree to rate the level of alignment between workforce planning and overall business goals in your organization
- Majority (37.8%) respondents say they agree and the

least (3.9%) say strongly disagree to effectively does your organization allocate resources (staffing, skills, etc.) to meet its business needs

- (35.6%) respondents say they agree and the least (3.9%) say strongly disagree to organization identify skills gaps and workforce shortages before they become a problem

- Majority (33.9%) respondents say agree and the least (5%) say strongly disagree to accurately does your organization forecast its future talent needs (e.g., staffing, skills, roles)

- (32.8%) respondents say agree and the least(4.4%) say strongly disagree to important is HR analytics in supporting strategic decision-making in your organization

- (33.3%) respondents say agree and the least(3.9%) say disagree and strongly disagree to organization's goals and objectives clearly defined when making strategic decisions

- (36.1%) respondents say they agree and the least(4.4%) say strongly disagree to satisfied with HR management

- (46.1%) of the respondents say a data driven approach to decision making and the least(5%) say not sure

- (41.7%) of the respondents say enhanced employee retention strategies and the least(15.6%) say increased operational efficiency

- (43.9%) of the respondents say Greater focus on data-driven employee development programs and the least(16.7%) say Predictive analytics for proactive talent management

- (42.8%) of the respondents say Resistance to data-driven decisions from leadership or employees and the least(9.4%) say Budget constraints

- (35.6%) of the respondents say Employee engagement and satisfaction and the least(12.8%) say Compensation and benefits Since the p value (0.007) is more than 0.05. we accept Null hypothesis and we reject Alternative hypothesis. So, There is no significant difference between HR analytics is frequently used in your organization and HR analytics currently being used to support work transformation efforts

- Since the p value (0.003) is lesser than 0.05. we accept Alternative hypothesis and we reject Null hypothesis. So, There is a significant difference between agree with the level of feedback you receive on your performance and agree your organization actively track employee retention rates

- Since the p value (0.243) is more than 0.05. We accept Null hypothesis and we reject Alternative hypothesis. So, there is no significant difference between important is HR analytics in supporting strategic decision-making in your organization and organization's goals and objectives clearly defined

when making strategic decisions.

Suggestions:

- To understand and act upon the instructions of the employees for better control of human resources

- To adapt HR analytics to shift from just managing employee performance to enhancing the overall employee

- To develop real time decision making is the future HR analytics could prioritize for fostering real time action

- To develop lenient HR policies for better control over the employees and workforce management.

- To improve talent acquisition by data-driven insights obtained through HR analytics enable organizations to devise more effective recruitment strategies and this can help me to a reduction in time-to-hire and an enhancement in candidate quality.

- To enhance employee development by facilitating the identification of skill gaps within the workforce. Consequently, organizations can tailor development programs to address these gaps, resulting in improved employee performance and engagement.

- By practicing increased retention rates through predictive analytics, organizations can identify potential turnover risks among employees.

- It enhances and also enables proactive implementation of retention strategies, ultimately leading to increased retention rates within the organization.

- To overcome the limitations of the data, despite its many advantages, human resource analytics has its drawbacks, which include a reliance on historical data, worries around data privacy, and a lack of expertise among HR practitioners

- To make sure that the HR analytics, company policies and employee engagement goes hand in hand.

Conclusion:

HR Analytics empowers the powers to the organisation to make important decisions relating to HR policies and also employee engagement so that it helps in a better relationship between the employees and the organisation and also it helps to retain the employees and also it enhancers the working experience of the employees. HR should make sure that the employees are given importance when it decision is made so that that can increase the working ability of the employees and also that reputation of the company. As a better control in the HR management would definitely enhance workforce management and also transforming the company in a better way of growth.HR analytics is a vital and essential part of the company and it should be make sure that it is followed as per the norms of the company and it also helps in the association with other companies too. The HR policies should be made public so that the employees and the employees were yet to join the company are known about the policies that the follow in the company

References

Books:

1. The New HR Analytics by Jac Fitz-enz
2. HR Analytics Handbook by Vibhavari B. Deshmukh
3. Data-Driven HR: How to Use Analytics and AI to Drive Change by Bernard Marr
4. Strategic Human Resource Management: A General Managerial Approach by Charles R. Greer

Article:

- Aina, R. A., & Atan, T. (2020). The impact of implementing talent management practices on sustainable organizational performance. *Sustainability, 12*(20), 8372. https://doi.org/10.3390/su12208372

- Asfahani, A. M. (2024). Fusing talent horizons: the transformative role of data integration in modern talent management. *Discover Sustainability, 5*(1). https://doi.org/10.1007/s43621-024-00212-7

- Belizón, M. J., & Kieran, S. (2021). Human resources analytics: A legitimacy process. *Human Resource Management Journal, 32*(3), 603–630. https://doi.org/10.1111/1748-8583.12417

- Castillo, A., Benitez, J., Liorens, J., & Braojos, J. (2021). Impact of social media on the firm's knowledge exploration and knowledge exploitation: The role of Business Analytics Talent. *Journal of the Association for Information Systems, 22*(5), 1472–1508. https://doi.org/10.17705/1jais.00700

- Cho, W., Choi, S., & Choi, H. (2023). Human Resources Analytics for Public Personnel Management: Concepts, cases, and caveats. *Administrative Sciences, 13*(2), 41. https://doi.org/10.3390/admsci13020041

- Claus, L. (2019). HR disruption—Time already to reinvent talent management. *Business Research Quarterly, 22*(3), 207–215.

https://doi.org/10.1016/j.brq.2019.04.002

- Dutta, D. (2018). Social Media and Technology trends in HRM: Cases in recruitment and talent management. In InTech eBooks. https://doi.org/10.5772/intechopen.79342

- Guerra, J. M. M., Danvila-Del-Valle, I., & Méndez-Suárez, M. (2023). The impact of digital transformation on talent management. *Technological Forecasting & Social Change/Technological Forecasting and Social Change, 188,* 122291. https://doi.org/10.1016/j.techfore.2022.122291

- Haziazi, M. A. (2021). Development of framework for talent management in the global context. *Open Journal of Business and Management, 09*(04), 1771–1781. https://doi.org/10.4236/ojbm.2021.94096

- Kaliannan, M., Darmalinggam, D., Dorasamy, M., & Abraham, M. (2023). Inclusive talent development as a key talent management approach: A systematic literature review. *Human Resource Management Review, 33*(1), 100926. https://doi.org/10.1016/j.hrmr.2022.100926