HR AnalyticS in Kolhapur based Industries

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Abstract:
This paper presents a comprehensive analysis of descriptive statistics and t-test results pertaining to diverse aspects of human resource management, organizational strategy, and the utilization of HR analytics. The data, gathered through surveys, offers valuable insights into how respondents perceive these facets within their organizations. The results showcase a generally positive on the application of HR analytics, highlighting the importance of maintaining up-to-date HR data, particularly in areas such as workforce statistics, human resource skills, and HR function efficiency. Additionally, the analysis explores into gender-based differences, revealing minor variations in perceptions between male and female respondents. However, these distinctions do not appear to be statistically significant, emphasizing the overall alignment in how employees of both genders view these crucial aspects. These findings offer appreciable implications for organizations aiming to comprehend their employees' perspectives and promote data-informed decision-making, ultimately enhancing their HR practices and strategies.
Key words:- HR analytics usage, Workforce statistics, Human resource skills and values, Efficiency and effectiveness of HR function, Competitive intensity, Organizational strategy

Introduction

Analytics is rapidly emerging as a discipline that combines computer knowledge with qualitative methods to address various management problems in contemporary organizations (Angrave et al., 2016). The complexity of today's business landscape and its demands necessitate intricate decision-making processes that involve multiple dimensions. This mandates organizations to adopt new methods and techniques capable of analyzing the facts and figures required for such decisions. Adapting to changing environments and responding to them has become crucial for survival (Guest, 2004).

The concept of HR Analytics can be traced back to the early 1990s through the writings of Fitz-Enz, J. (1995). In his book "How to Measure Human Resource Management," he sought to introduce a quantitative approach to the traditionally qualitative domain of Human Resource Management (Marler and John W. Boudreau, 2017). Although Human Resource (HR) Analytics is sometimes dismissed as a passing trend, Rasmussen and Ulrich (2015) argue that HR Analytics provides "evidence-based initiatives, data-driven decisions, a focus on HR investments," and scientific rigor and objectivity to HR decision-making, thus transforming the function from a mere staff or even a line function into a strategic one."

The necessity for HR metrics to comprehend the efficacy and efficiency of the HR Function was highlighted by Lawler et al. (2004), one of the first researchers in the field of developing metrics into HR Function. They emphasized that in order to give HR greater significance, it is imperative to comprehend the connection between HR procedures and business results. The writers were alluding to the necessity of giving the HR functions a Return on Investment (ROI) focus.

This sentiment is stressed by Bordeaux Ramstad (2006) who consider the HR Function to be highly “elegant and sophisticated” yet fails in terms of delivering the desired result it lacks robust and scientifically standard measures to assess its accountability in relation to measuring employee turnover, employee performance employee attitudes and the like. They accept the existence of a number of independent measures to identify the trends in the said areas but no specific all-encompassing technology to deal with these questions in a comprehensive and interrelated manner to lead to a holistic decision making. Bordeaux Ramstad (2006) emphasizes this point, saying that although the HR function is very "elegant and sophisticated," it falls short of producing the intended results because there are no reliable and accepted scientific methods for evaluating its accountability for tracking employee performance, attitudes, and other related metrics. They acknowledge the presence of several

independent metrics to pinpoint trends in the aforementioned fields, but they lack a single, all-encompassing technology to address these issues in a thorough and connected way that would enable decision-making from an integrated perspective.

According to Bontis (2010), the HR function's respectability depends on its capacity to implement complex modeling and assessment procedures. Bordeaux (2010) reiterates the need, in contrast to the often-stated elegance and sophistication of the HR Functions, of improving HR decision making through the use of analytics to increase predictive reliability.

Mack (2010) stresses the need of relevant and trustworthy qualitative indicators in closing the communication gap between senior management and HR specialists. According to Wilde (2010), this capability will improve forecasting of human capital and associated variables. The best metrics or measurements are still up for debate, though. Bassi (2011) emphasizes how important it is to comprehend the meaning of HR analytics and its intended applications. Along with the warning that there's no need to automatically associate the growing importance of the HR function with the usage of analytics. According to them, the goal of HR analytics is to raise both the corporate and individual values.

The deployment of merely statistical metrics or instruments will not accomplish the goal, claim Cascio and Boudreau (2011). In order to comprehend the link between variables and numbers, "logic models" must be developed. The authors argue that developing "mental frameworks" and a logical line of reasoning is necessary before attempting to acquire insights. This establishes the fundamental framework for HR analytics, upon which statistical measurements may then be added.

Research Gap

A notable research gap in the field of HR Analytics is the development and validation of standardized metrics that comprehensively assess various HR functions, such as employee turnover, performance, and attitudes, in a scientifically rigorous manner. While the importance of HR accountability has been emphasized, there remains a lack of universally accepted and well-established metrics that enable holistic decision-making in organizations. Addressing this research gap would contribute to the evolution of HR Analytics by providing HR professionals with reliable and standardized tools to assess the effectiveness of their practices, ultimately enhancing the strategic impact of HR within organizations.

The researcher has identified a reliable and standardized tool to assess the effectiveness of human resources, competitive intensity, and organizational strategy. This tool encompasses three key areas for evaluating the Degree of Application of HR Analytics:

The tool for assessing the Degree of Application of HR Analytics across the three areas of Relevance, Usage, and Effectiveness presents a comprehensive and structured framework for organizations to evaluate and enhance their HR Analytics practices. By systematically examining the alignment of HR Analytics with organizational goals, the frequency and effectiveness of its utilization, and its impact on performance and strategy, organizations can gain valuable insights into the maturity and success of their HR Analytics initiatives. This tool not only helps in understanding the current state of HR Analytics within an organization but also provides a roadmap for improvements, ultimately contributing to better decision-making and strategic outcomes. It serves as a valuable resource for HR professionals and leaders seeking to harness the full potential of HR Analytics to drive organizational success.

Cronbach Alpha Coefficients for Six Dimensions used in the Study

S.No.	Dimensions	Alpha	No. of Items
1	Organization & Its Human Resources	0.891	7
2	Organizations Competitive Intensity	0.909	6
3	Organizations Strategy	0.921	5
4	Degree of Application of HR Analytics	0.921	5

5	Degree of Application of HR Analytics -Relevance	0.916	4
6	Degree of Application of HR Analytics – Usage	0.974	4
7	Overall	0.911	31

The Cronbach's Alpha coefficients for the six dimensions in the study indicate the internal consistency and reliability of the measurement scales. The high Alpha values for "Organization & Its Human Resources" (0.891), "Organizations Competitive Intensity" (0.909), and "Organizations Strategy" (0.921) demonstrate that these dimensions effectively capture their respective constructs related to human resources, competitive intensity, and organizational strategy. However, the absence of a provided Alpha for "Degree of Application of HR Analytics" makes it difficult to assess its internal consistency, and it's important to calculate this Alpha to determine the reliability of the scale. "Degree of Application of HR Analytics - Relevance" (0.916) and "Degree of Application of HR Analytics – Usage" (0.974) show exceptionally high internal consistency, indicating that they reliably measure the relevance and usage of HR analytics in the study, suggesting that these scales are robust for assessing these dimensions.

Objectives of the study

In the modern workplace, understanding the dynamics of human resources, competitive intensity, organizational strategy, and the role of analytics has become increasingly crucial for organizational success. Gender diversity within the workforce is a prominent aspect of organizational composition. This study aims to investigate the relationships between gender and key dimensions within the organizational context. Specifically, it explores how gender may influence opinions regarding the HR function, perceptions of competitive intensity, the extent of organizational strategy implementation, the level of HR function implementation, perceptions of the relevance of HR analytics, and the extent of usage of HR analytics. Through these objectives, we seek to gain valuable insights into how gender may play a role in shaping organizational dynamics and perceptions.

1) To Examine the Relationship Between Gender and Opinions Regarding the HR Function
2) To Assess the Relationship Between Gender and Perceptions of Competitive Intensity
3) To Investigate the Relationship Between Gender and the Extent of Implementation of Organizational Strategy
4) To Explore the Relationship Between Gender and the Level of Implementation of the HR Function
5) To Examine the Relationship Between Gender and Perceptions of the Relevance of HR Analytics
6) To Assess the Relationship Between Gender and the Extent of Usage of HR Analytics

Research Methodology

The researcher in this study utilized survey research as a research method, involving the use of standardized questionnaires or interviews to collect data about people's preferences. The primary data was collected using the questionnaire method. Dillman (2000) distinguishes between three types of data variables that can be collected through questionnaires: 1. Opinion, 2. Behavior, and 3. Attribute. Different items in the questionnaire indicate various scale factors, i.e., variables related to both the dependent variable and intervening variables were provided on a Likert scale of five points. The five response categories, along with the numerical values assigned to them for computational purposes, are as follows: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1). Since the questionnaire used a five-point scale, average scores of 3 and around indicate a moderate tendency on that dimension exists, and scores around 4 indicate a strong presence of that dimension.

The scale used in the questionnaire was adopted from Beesetti MB (2020).

The researcher prepared a Google Form to collect the data and distributed it among HR professionals. The researcher received 190 responses.

Hypothesis

1) (Ho1): There is no significant relationship between demographic variables Gender and opinions regarding the HR Function.
2) (Ho2): There is no significant relationship between demographic variables Gender and perceptions of Competitive Intensity.
3) (Ho3): There is no significant relationship between demographic variables Gender and the extent of implementation of the organizational strategy.
4) (Ho4): There is no significant relationship between demographic variables Gender and the level of implementation of the HR Function.
5) (Ho5): There is no significant relationship between demographic variables Gender and perceptions of the relevance of HR Analytics.
6) (Ho6): There is no significant relationship between demographic variables Gender and the extent of usage of HR Analytics.

Descriptive statistics of opinion regarding HR Functions

Items	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
I am with the current organisation	4.3053	.83664	-1.941	.176	5.222	.351
our organisation structure is flat in hierarchy	4.3474	.51984	.183	.176	-.986	.351
there are few levels in our organisational hierarchy	4.4842	.59740	-.992	.176	1.552	.351
Even small matters have to be referred to someone higher up for a final answer	4.3474	.63859	-.827	.176	1.333	.351
Hardly any action can be taken until my Supervisor approves a decision	4.5368	.61396	1.799	.176	13.089	.351
Employees in this Organization learn how to perform variety of tasks	4.5895	.51424	-.602	.176	-1.100	.351
Employees in this Organization are Cross Trained so that they can fulfill for others if necessary	4.5158	.60620	-1.285	.176	2.701	.351

The descriptive statistics presented for the items related to opinions regarding HR functions offer valuable insights into how respondents perceive various aspects of their organization's operations and structure. The mean scores reveal the average sentiment for each item, and, on a scale where higher scores indicate more positive opinions, it's evident that, on average, respondents hold moderately positive views for most of the statements.

The skewness and kurtosis statistics help shed light on the shape and distribution of the data. Notably, for some items, such as "Hardly any action can be taken until my Supervisor approves a decision," the data exhibits significant skewness and kurtosis. This suggests that there are likely extreme responses in both directions, possibly indicating polarized views within the sample.

Items like "Our organization structure is flat in hierarchy" and "Employees in this Organization learn how to perform a variety of tasks" show less variability, with skewness and kurtosis statistics indicating

more symmetric and lighter-tailed distributions. This suggests that respondents' opinions on these aspects are more clustered around the mean, with fewer extreme responses.

Descriptive statistics of opinion regarding Organisations Competitive Intensity

Items	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
The HR-Capital Ratio Percentage (Ratio Between costs of Human Resources and total operational costs inclusive Manpower) in our Organization is Adequate	4.4789	.55117	-.395	.176	-.937	.351
My Organization has been in existence in this industry for more than 1 Decade	4.5263	.56983	-1.058	.176	2.053	.351
My Organization employs more than 1000 employees across the Globe	4.3684	.60950	-.687	.176	.997	.351
Competition in our Industry is cut-throat	4.4737	.61450	-1.143	.176	2.251	.351
Anything that one Competitor can offer, others can match easily	4.3263	.74097	-1.790	.176	5.745	.351
Price Competition is a hallmark of our industry	4.6105	.53044	-1.098	.176	1.470	.351

The descriptive statistics provide a comprehensive insight into how respondents perceive the competitive intensity within their organization and industry context. On average, respondents consider the HR-capital ratio in their organization to be adequate, reflecting a sense of balance between human resource costs and overall operational costs. Similarly, they take pride in their organization's long-standing presence in the industry, suggesting a sense of tradition and stability. The perception of a global workforce in the organization indicates an awareness of the organization's international scale. Furthermore, the industry itself is perceived as highly competitive, with respondents agreeing on a cut-throat environment where competitors easily match each other's offerings, reflecting intense market competition, especially regarding pricing strategies.

The presence of both negative and positive skewness, along with the varying kurtosis values, indicates that there are diverse opinions within the sample, with some respondents expressing strong agreement with these statements and others holding different perspectives. These statistics not only provide a snapshot of respondents' perceptions but also highlight the potential polarization of viewpoints, which can be vital for organizations in understanding how their employees perceive the competitive dynamics both within and outside the organization.

Descriptive statistics of opinion regarding Organisation Strategy

Items	Mean	Std. Deviation	Skewness	Kurtosis

	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
One hears of a new competitive move almost every week	4.5263	.63981	-1.385	.176	2.352	.351
My Organization offers a wide variety of Products / Services	4.4947	.58867	-1.159	.176	2.770	.351
My Organization has a very diverse customer group	4.2895	.54955	-.553	.176	2.872	.351
My Organization is innovative in terms of the novelty of new Products / Services Offered	4.5368	.58753	-1.172	.176	2.035	.351
My Organization allots a large amount of Resources to R&D and Training	4.4947	.66466	-1.510	.176	3.112	.351

The descriptive statistics for respondents' opinions on organizational strategy shed light on various critical dimensions of strategic practices within the organization. The higher mean score for "One hears of a new competitive move almost every week" suggests that respondents generally perceive a dynamic and fast-paced competitive environment, with many strongly agreeing with this sentiment. This indicates that the organization is frequently exposed to and engaged in competitive developments, which could be a sign of an active and adaptable business landscape. However, the negative skewness and positive kurtosis suggest that while there's a predominant agreement, there might be a polarization of opinions, with some respondents perceiving the competitive landscape as even more dynamic and competitive than others.

The next aspect, "My Organization offers a wide variety of Products / Services," aligns with the organization's reputation for diverse offerings, as evidenced by the high mean score. The negative skewness underscores a consensus among respondents, but the positive kurtosis indicates that there are extremes in responses. Some may view the organization's product and service variety as exceptionally extensive, while others may consider it merely diverse.

Descriptive statistics of opinion regarding Degree of Application of HR Analytics

My Organization allows a large number of Resources to Marketing	4.5211	.52158	-.311	.176	-1.393	.351
In My Organization HR Analytics full-fill the need of Providing basic HR Reporting (Eg Data from ERP and HCM Systems such as Turnover and Employee Satisfaction)	4.4263	.58404	-.434	.176	-.701	.351
In My Organization HR Analytics full-fill the need of Providing HR value-added Metrics (Eg. Insight in performance rating and recruitment process effectiveness)	4.4526	.74562	1.905	.176	14.189	.351
In My Organization HR Analytics full-fill the need of Providing Integrated Talent Management Metrics (Eg Combined Information such as Percentage of Higher Performers Retention)	4.5316	.50032	-.128	.176	-2.005	.351

In My Organization HR Analytics full-fill the need of Providing Business Driver Analytics (Eg. Business Impact of HR Measures such as Impact of Employees Turnover on Financial Performance)	4.4684	.53110	-.194	.176	-1.272	.351

The descriptive statistics related to the degree of application of HR analytics in various aspects of organizations shed light on respondents' perceptions. On average, respondents appear to believe that HR analytics is applied effectively in their organizations. The means for each item are all above 4, indicating agreement with statements related to HR analytics utilization.
Notably, the responses regarding HR value-added metrics exhibit a considerably high positive skewness and kurtosis, signifying that many respondents strongly agree that HR analytics provides valuable insights into performance ratings and recruitment process effectiveness. Similarly, the integrated talent management metrics item shows a relatively balanced distribution but with slightly heavier tails, indicating a consensus on its effectiveness. The other items reflect a more moderate level of agreement, with generally symmetric distributions, suggesting that respondents, in general, see their organizations as adequately applying HR analytics.
These statistics can help organizations assess how their employees perceive the application of HR analytics in different domains, highlighting areas of strength and those that might require further development or communication to align employee perceptions with organizational goals.

Descriptive statistics of opinion regarding Degree of Degree of Application of HR Analytics – Relevance

	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
In My Organization Basic univariate statistics (mean, median, mode, percentiles, standard deviation etc.,) are adopted in our HR Analytics	4.5211	.57004	-1.036	.176	2.007	.351
In My Organization Advanced univariate statistics (correlation, keenness, difference in means, distribution of a variable etc) are adopted in our HR Analytics	4.3895	.52037	-.115	.176	.360	.351
In My Organization Basic multivariate statistics (ANOVA, Factor Analysis, Regression, Logit/ Probit, Survival/Hazard Analysis etc.,) are adopted in our HR Analytics	4.4158	.52530	.011	.176	-1.273	.351
In My Organization Advanced multivariate statistics (Structural Equations, Fixed-Effects Models, Maximum Likelihood Models etc) are adopted in testing direct and indirect efforts of variables on one another	4.4421	.51877	.005	.176	-1.474	.351

The descriptive statistics regarding the degree of application of HR analytics techniques shed light on how respondents perceive the analytical practices within their organizations. On average, respondents express agreement with the adoption of both basic and advanced univariate and multivariate statistical methods, indicating a generally positive view of the organization's HR analytics capabilities. The data's skewness and kurtosis values suggest that respondents tend to have moderately strong opinions, with a notable proportion strongly agreeing with these practices.

These findings are encouraging, suggesting that organizations place importance on employing a variety of statistical techniques in their HR analytics efforts. However, organizations should continue to assess and potentially expand their analytics practices, especially in advanced multivariate statistical methods, to ensure they stay competitive and effectively leverage data for HR-related decisions and insights. The consensus among respondents provides a valuable foundation for organizations to build upon as they continue to evolve their HR analytics strategies.

Descriptive statistics of opinion regarding Degree of Degree of Application of HR Analytics -Usage

In My Organization Workforce Statistics (Eg Gender, Age, Absenteeism, Job Type, Ethnic Origin etc) is updated on a regular basis	4.4947	.69577	2.781	.176	16.658	.351
In My Organization Measure of Human Resource's Skills/values (Eg Index of Key Quality such as Experience, Knowledge & Skill, Competencies & Attitude, Values, Potential, Performance and Employee Engagement etc) is updated on a regular basis	4.4632	.52069	-.079	.176	-1.477	.351
In My Organization Measure of Efficiency and Effectiveness of the HR Function (Eg Cost Ratio, Rates of Participation, Efficiency and Effectiveness of Processes such as Appraisals, Recruitment, Succession Planning and Training etc) is updated on a regular	4.5053	.54187	-.424	.176	-1.013	.351

The descriptive statistics offer valuable insights into the degree of application of HR analytics usage within organizations. Specifically, they shed light on the regularity of updating critical HR data and metrics. The data suggests that, on average, respondents strongly agree that workforce statistics, encompassing factors like gender, age, absenteeism, job types, and ethnic origin, are consistently updated, underscoring the significance of keeping these demographic and workforce-related insights current. This is evident in the notably positive skewness and kurtosis values, indicating a substantial consensus among respondents with a strong emphasis on up-to-date workforce data.

Similarly, the measures of human resource skills and values appear to be regularly updated, with respondents on average expressing agreement. The close-to-zero skewness and slightly negative kurtosis indicate that there is consensus and moderate clustering of opinions around the mean. Moreover, the measure of HR function efficiency and effectiveness, covering areas like cost ratios, participation rates, and the efficiency of various HR processes, is also reportedly updated on a regular basis, reflecting broad agreement among respondents. The slightly negative skewness and kurtosis values suggest that opinions tend to cluster around the mean, reaffirming the importance of data-driven evaluations of HR functions. These statistics collectively signify the commitment of organizations to maintaining up-to-date HR analytics, enabling data-informed decisions and strategies across different facets of human resource management.

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Human Resource Function	Male	165	4.4545	.49945	.03888
	Female	25	4.5200	.50990	.10198
Organization's Competitive Intensity	Male	165	4.6061	.50240	.03911
	Female	25	4.5600	.50662	.10132
Organization's Strategy	Male	165	4.5091	.52520	.04089
	Female	25	4.4800	.58595	.11719
Degree of Application of HR Analytics	Male	165	4.5515	.54556	.04247
	Female	25	4.3600	.56862	.11372
	Male	165	4.5939	.49259	.03835

Application of HR Analytics using Statistics	Female	25	4.5600	.50662	.10132
Application of HR Analytics – Usage	Male	165	4.4970	.52527	.04089
	Female	25	4.5600	.50662	.10132

The above statistics offer a comparative perspective on how male and female respondents perceive various facets of human resources, organizational strategy, and the application of HR analytics. In general, both genders tend to rate these aspects positively, indicating a favorable view of the HR function, organization's competitive intensity, strategy, and HR analytics. While there are variations in mean scores between males and females, these differences are relatively small, suggesting that there might not be substantial gender-based distinctions in these perceptions. However, it's essential to consider the sample size for females, which is notably smaller, and bear in mind that more extensive research and in-depth analysis would be necessary to draw definitive conclusions regarding gender-based differences in these perceptions.

These findings could be valuable for organizations seeking to understand the nuances of how their employees, both male and female, perceive and evaluate crucial aspects of HR and organizational practices. It might also indicate that, in the context of the survey's questions, gender may not be a significant determinant of these perceptions, emphasizing the overall alignment in how employees of both genders view HR and organizational aspects.

Independent samples t-tests for various aspects, including the Human Resource Function, Organization's Competitive Intensity, Organization's Strategy, Degree of Application of HR Analytics, Application of HR Analytics using Statistics, and Application of HR Analytics – Usage.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Human Resource Function	Equal variances assumed	.130	.719	-.609	188	.543	-.06545	.10748	-.27747	.14656
	Equal variances not assumed			-.600	31.388	.553	-.06545	.10914	-.28794	.15703
Organization's Competitive Intensity	Equal variances assumed	.146	.703	.427	188	.670	.04606	.10794	-.16687	.25899
	Equal variances not assumed			.424	31.582	.674	.04606	.10861	-.17529	.26741
Organization's Strategy	Equal variances assumed	1.167	.281	.254	188	.800	.02909	.11446	-.19671	.25489

	Equal variances not assumed			.234	30.133	.816	.02909	.12412	-.22434	.28252
Degree of Application of HR Analytics	Equal variances assumed	.035	.851	1.627	188	.105	.19152	.11773	-.04073	.42376
	Equal variances not assumed			1.578	31.073	.125	.19152	.12140	-.05605	.43908
Application of HR Analytics using Statistics	Equal variances assumed	.298	.586	.320	188	.749	.03394	.10611	-.17538	.24325
	Equal variances not assumed			.313	31.274	.756	.03394	.10834	-.18694	.25482
Application of HR Analytics – Usage	Equal variances assumed	.726	.395	-.562	188	.575	-.06303	.11223	-.28442	.15836
	Equal variances not assumed			-.577	32.329	.568	-.06303	.10926	-.28551	.15945

The above table includes the results of independent samples t-tests for different variables based on gender, along with Levene's test for equality of variances:-

(Ho1): There is no significant relationship between demographic variables Gender and opinions regarding the HR Function.

The t-test results for the HR Function show that the p-value is 0.543 when equal variances are assumed and 0.553 when equal variances are not assumed. In both cases, the p-value is greater than the common alpha level of significance (e.g., 0.05). Therefore, we fail to reject Ho1, suggesting that there is no significant difference between males and females in their opinions regarding the HR Function.

(Ho2): There is no significant relationship between demographic variables Gender and perceptions of Competitive Intensity. The t-test results for Competitive Intensity indicate a p-value of 0.670 when equal variances are assumed and 0.674 when equal variances are not assumed.

We also fail to reject Ho2, indicating that there is no significant difference between males and females in their perceptions of Competitive Intensity.

(Ho3): There is no significant relationship between demographic variables Gender and the extent of implementation of the organizational strategy. The t-test for Organization's Strategy results in a p-value of 0.800 when equal variances are assumed and 0.816 when equal variances are not assumed.

Therefore, we fail to reject Ho3, suggesting that there is no significant difference between males and females in their perceptions of the implementation of organizational strategy.

(Ho4): There is no significant relationship between demographic variables Gender and the level of implementation of the HR Function. For Degree of Application of HR Analytics, the p-value is 0.105 when equal variances are assumed and 0.125 when equal variances are not assumed.

We fail to reject Ho4, indicating that there is no significant difference between males and females in their perceptions of the level of implementation of the HR Function.

(Ho5): There is no significant relationship between demographic variables Gender and perceptions of the relevance of HR Analytics. The t-test results for Application of HR Analytics using Statistics show a p-value of 0.749 when equal variances are assumed and 0.756 when equal variances are not assumed.

We fail to reject Ho5, suggesting that there is no significant difference between males and females in their perceptions of the relevance of HR Analytics.
(Ho6): There is no significant relationship between demographic variables Gender and the extent of usage of HR Analytics. For Application of HR Analytics – Usage, the p-value is 0.575 when equal variances are assumed and 0.568 when equal variances are not assumed.
We also fail to reject Ho6, indicating that there is no significant difference between males and females in their extent of usage of HR Analytics.
In summary, the results of the t-tests for all variables suggest that there is no significant relationship between gender and the respective opinions and perceptions, as stated in the null hypotheses (Ho1-Ho6).

Scope for the further research

The results of the current analysis offer valuable insights into how respondents' gender may or may not impact their perceptions regarding various aspects of human resources, organizational strategy, and HR analytics. However, they also open up opportunities for further research in several areas: This analysis focused on gender differences in perceptions. A more extensive study could explore how gender interacts with other variables like age, job role, or tenure in the organization to provide a more comprehensive understanding of workplace dynamics.
While quantitative analysis provides statistical insights, qualitative research methods such as interviews or focus groups could help uncover the reasons behind gender-related differences or similarities in perceptions. This qualitative data can offer more nuanced explanations and uncover areas for improvement.
Expanding the comparative analysis to include not only gender but also other demographic factors could reveal more nuanced insights. Comparing different groups within the organization can help identify areas where specific demographics perceive significant differences in HR practices or organizational aspects.
It might be beneficial to perform similar studies within specific industries, as industry context can significantly influence perceptions. Comparing perceptions of HR practices across various sectors can offer insights into the unique challenges each industry faces.

Findings and observations: -

The descriptive statistics for Degree of Application of HR Analytics suggest that, on average, respondents agree that HR analytics are applied in their organizations.
The highly positive skewness and kurtosis values for HR value-added metrics and integrated talent management metrics indicate that many respondents strongly agree with the effectiveness of HR analytics in providing insights into performance ratings, recruitment process effectiveness, and integrated talent management.
Respondents generally hold positive views about the application of HR analytics techniques, and these statistics are indicative of a strong consensus among respondents.
Respondents, on average, rate the Application of HR Analytics using Statistics positively, indicating a general agreement with the statement.
The relatively balanced distribution and moderately positive skewness and kurtosis suggest a consensus among respondents with opinions moderately clustered around the mean.
The data regarding Application of HR Analytics – Usage reveals that, on average, respondents agree with the extent of usage of HR analytics in their organizations.
Both male and female respondents hold moderately positive views about the Application of HR Analytics – Usage. Although the sample size for females is smaller, the differences in mean scores between genders are relatively small.
The t-test results further confirm that there is no significant difference between males and females regarding their opinions on the extent of usage of HR analytics.
Gender-based comparisons of respondents' perceptions regarding various aspects related to HR, organizational strategy, and HR analytics do not reveal significant differences.
The t-test results, along with Levene's test for equality of variances, suggest that there is no substantial gender-based distinction in how respondents perceive these aspects.

The results indicate that, in the context of this survey, gender does not appear to be a significant determinant of perceptions related to HR and organizational practices. This emphasizes the overall alignment in how male and female employees view these aspects in the organizations surveyed.
Overall, the descriptive statistics reveal that organizations place importance on employing HR analytics and statistical techniques to make data-informed decisions. Additionally, the findings from gender-based comparisons indicate that both male and female employees have similar perceptions regarding HR and organizational aspects. However, it's important to recognize that these findings are specific to the context of this survey, and further research may be needed to explore the reasons behind these perceptions and to identify areas for potential improvement or alignment with organizational goals.

Suggestions and Recommendations

Based on the statistical analysis and interpretations provided, here are some suggestions and recommendations:
The data indicate that organizations prioritize the regular updating of critical HR data and metrics, which is crucial for data-informed decision-making. To further enhance this practice, organizations should consider implementing robust data management systems and processes to ensure the timely and accurate updating of workforce statistics, HR skills/values metrics, and efficiency/effectiveness measurements. Regular audits and data quality checks can also help maintain data integrity.
The analysis of gender-based differences in perceptions suggests that, in the context of the survey questions, gender might not be a significant determinant of these perceptions. However, to ensure that employees of all genders feel heard and valued, organizations should continue to promote open communication channels. Regular surveys and feedback mechanisms can provide insights into employee sentiments and enable organizations to address any concerns effectively.
Even though gender-based differences in perceptions may not be substantial, organizations should maintain a strong commitment to diversity and inclusion. Beyond gender, factors like age, ethnicity, and job types can significantly impact the work environment. Organizations should continue to invest in diversity and inclusion initiatives, providing equal opportunities and promoting a culture of respect and belonging for all employees.
The statistics related to the degree of application of HR analytics highlight the positive perception of respondents regarding the organization's HR analytics capabilities. However, organizations should not become complacent and should regularly evaluate and update their HR analytics practices to stay competitive. Considerations may include exploring advanced multivariate statistical methods and continuously adapting to evolving data analytics trends and tools to derive more meaningful insights for HR decision-making.
The analysis of competitive intensity suggests that respondents perceive a dynamic and competitive business landscape. Organizations should leverage this perception as an opportunity to further enhance their adaptability and agility. To stay competitive, it's crucial to stay attuned to market developments, continuously innovate products and services, and maintain a proactive approach to change.
The perceptions related to organizational strategy suggest that respondents see a dynamic and fast-paced competitive environment. This provides an opportunity for organizations to invest in employee training and development programs to ensure that employees are well-equipped to navigate such an environment. Continuous learning and skill development can enhance organizational competitiveness.
The data-informed nature of HR analytics, reflected in the statistics, underlines the importance of consistent data-driven decision-making. Organizations should foster a culture of evidence-based HR practices, ensuring that HR analytics data is not only collected but also effectively utilized for strategic HR planning, performance evaluation, and other HR functions.
While the t-test results suggest no significant gender-based differences in perceptions, organizations can encourage employee participation in decision-making and strategy development. This can foster a sense of ownership and engagement, making employees feel more connected to the organization's goals and strategies.
Organizations should continue to monitor HR data regularly to ensure its relevance and accuracy. This involves staying updated with industry best practices, implementing data security measures, and leveraging data analytics tools to derive actionable insights from HR data.

Given the polarized views in some aspects highlighted by the t-tests, organizations may consider offering diversity and inclusion training to employees to foster understanding and inclusivity. Such training can help bridge gaps in perceptions and promote a more cohesive work environment.
These suggestions and recommendations aim to help organizations maintain data integrity, foster a positive work environment, enhance competitiveness, and ensure a data-informed approach to HR and organizational strategy. It's essential for organizations to adapt and evolve based on data and employee feedback to achieve success in today's dynamic business landscape.

Conclusion

The analysis of these descriptive statistics and t-test results reveals that, on average, both male and female respondents hold moderately positive views across various aspects of human resources, organizational strategy, and the degree of application of HR analytics. While there are minor variations in mean scores between genders, these differences do not reach statistical significance. The overall alignment in perceptions indicates that gender may not be a significant determinant of these particular opinions and viewpoints. However, it's crucial to acknowledge the relatively smaller sample size for females and the need for further extensive research to draw definitive conclusions. These findings can be valuable for organizations seeking insights into how their employees perceive these key areas and suggest that their policies and practices resonate similarly with employees of different genders.

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