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The Role of Strategic Human Resource Management in Enhancing Employee Performance and Retention: Evidence from HR Analytics Data

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ABSTRACT

Strategic Human Resource Management (SHRM) is a vital organizational strategy that helps enhance the performance of the workforce and retain employees amidst the rapidly growing competition in the business world. This research investigates how SHRM can help improve employee performance and retention based on HR analytics information. The quantitative, descriptive and analytical research design was used with secondary HR data of 1470 employee records including demographic, job related, compensation, satisfaction, training, performance and attrition variables. The key determinants of employee performance and retention were identified using descriptive statistics, correlation analysis, and regression analysis. The results show that increased job satisfaction, increased job involvement, compensation, work-life balance, training participation, managerial relationships and stock option benefits are associated with increased retention, while overtime and delayed promotions are associated with increased risk of employee turnover. The result revealed that salary increment was found to be strongly related to employee performance, thus showing that employee evaluation is related to salary arrangements. The study also proves that HR analytics can be a powerful source of evidence-based insights for predicting employee turnover, understanding employee behaviors, and making strategic HR decisions. The results highlight how organizations could enhance employee performance and retention by leveraging HR analytics and SHRM practices to create proactive, data-driven workforce strategies. The study builds upon the current body of knowledge on strategic HRM and HR analytics and offers practitioners valuable insights on how to improve the performance of organizations using evidence-informed HRM.

KEYWORDS: Strategic Human Resource Management, HR Analytics, Employee Performance, Employee Retention, Data-Driven Decision Making

Introduction

Human resources are now a strategic and competitive resource for the development of organizations. Knowledge, skill, commitment and adaptability among employees are critical factors in the current working environment in productivity and overall performance. The organizations that can keep skilled employees are getting good benefits such as, reducing the recruitment cost, keeping the institutional knowledge and enhancing the operational efficiency (Sawaneh & Kamara, 2019). Meanwhile, organizations are undergoing rapid technological change, becoming more global, and adapting the nature of their work requirements. Simultaneously, old HR practices have been altered by fast changes in technology, globalization, and changing expectations in the workplace. Increasingly, organisations are moving towards data-driven and evidence-based HR solutions, using data analytics and digital solutions. Data science can be applied across HR functions, allowing organisations to gain insights into staff trends, forecast results and make informed decisions to boost performance (Tyagi, 2021). Therefore, it is no longer a job of administration but a strategic and data-driven HR management. Strategic Human Resource Management (SHRM) is more about complementing HR policies and practices with organizational objectives to realize future success. SHRM is different from traditional HRM in that it focuses on the strategic importance of recruitment, training, performance management, compensation, and employee engagement in achieving organizational results. There are several pieces of research that have found that good HRM practices do make a difference in employee motivation, commitment, and productivity, hence the performance of the organization improves (Anwar & Abdullah, 2021). In addition, the HR practices should be considered as interrelated systems and not as separate individual practices, because the overall effect of the combined HR practices could impact their employee behavior and employee performance (Boon et al., 2019). It's no surprise that employee retention is tied to employee perceptions of HR practices. Employees will be more loyal to the organization when they perceive HR policies as fair, supportive and growth-oriented (Basnyat & Clarence Lao, 2020). Moreover, new HRM models like green HRM emphasize the role of leadership, organizational culture and HR practices in influencing employee behavior and performance outcomes (Al-Swidi et al., 2021). The insights from these perspectives illustrate the critical importance that SHRM has in improving individual-level outcomes and organizational-level success. HR analytics has become a formidable weapon to support decision making in human resource management. It's about gathering and studying information about

employees to uncover patterns that matter regarding performance, engagement, turnover, and workforce planning. In the digital age, organizations have come to rely on big data and analytics to improve efficiency and strategic decision making (Dahlbom et al., 2020). Artificial intelligence (AI) tools can also be used to enhance the capabilities of HR analytics, such as predictive analytics, automated evaluations, and decision support, which can assist with streamlining and improving HR processes (Arora et al., 2021). In advanced frameworks, the role of the organization is emphasized in how it can bring value to the application of artificial intelligence capabilities based on the ability to bring together data, analytics and managerial expertise (Chowdhury et al., 2023). There are, however, moral and theoretical issues involved in the use of algorithmic systems in HR, especially in recruitment and evaluation (Cheng & Hackett, 2021). Additionally, HR professionals need to gain a new set of analytical and technical skills for the use of big data (De Mauro et al., 2018). Digital transformation programs have demonstrated that technology can reinforce leadership and organizational strategy to achieve better performance results (Chatterjee et al., 2023). Likewise, in the contemporary era, smart information systems, agile frameworks, and other such trends highlight the role of technology-enabled strategic implementation in organizations (Al Kurdi et al., 2024; ALSHURIDEH et al., 2024). Despite all the efforts made in HR practice, the challenge of issues that are associated with employee performance, employee disengagement, and employee turnover is still a major concern for organizations. In the past, HR departments had limited means of developing insights about employee behavior and performance issues on the fly and based on data. This raises the need to investigate the impact of SHRM practices on employee performance and turnover through HR analytics. HR strategies must be effective, and they need to be backed by trustworthy analytical evidence to assess their effectiveness. Studies on HRM practices, organizational performance, employee turnover and HR analytics have been conducted separately. But there is a lack of research that has combined SHRM and HR analytics to study the impact of their interaction on employee performance and retention. In addition, there is a need for more context-specific research, specifically in rapidly changing business environments (Cooke et al., 2020). This study fills this gap by connecting SHRM practices to HR analytics to gain a complete picture of workforce outcomes. This study aims to look at how Strategic Human Resource Management helps in improving HR analytics information and employee performance and retention. This study aims to study the effect of SHRM practices on employee performance, examine the association between SHRM practices and employee retention, understand the

importance of HR analytics in understanding workforce patterns, understand the role of HR analytics in HR decision making, and recommend actionable steps to boost organizational outcomes.

2. Methodology

2.1 Research Design

The design of the study was quantitative, descriptive and analytical research design to analyze the role of Strategic Human Resource Management (SHRM) in improving employee performance and retention. The study is based on HR analytics data, and relates the relationship between HR related variables, employee performance, and employee attrition.

2.2 Data Source

The dataset studied is the HR analytics dataset consisting of 1470 employees and 35 variables. Demographic, job-related, compensation, satisfaction, training, performance and attrition-related variables are included in the dataset (Pavansubhash, 2018). Some of the major variables are Attrition, PerformanceRating, TrainingTimesLastYear, MonthlyIncome, PercentSalaryHike, JobSatisfaction, JobInvolvement, WorkLifeBalance, OverTime, YearsAtCompany, YearsInCurrentRole, YearsSinceLastPromotion, and YearsWithCurrManager.

2.3 Population and Sample

The employees from the organizational environments where HR analytics data are stored form the population of the study. This sample consists of 1,470 employees across various departments, job roles, age ranges, education and experience levels. The study is based on secondary data that has already been collected hence purposive sampling is used.

2.4 Variables of the Study

The independent variables consist of factors related to SHRM including job involvement, job satisfaction, work life balance, overtime, training and development, supervisor relationship, department, job role, job level, and compensation and rewards. These include variables like TrainingTimesLastYear, MonthlyIncome, PercentSalaryHike, StockOptionLevel, JobInvolvement, JobSatisfaction, WorkLifeBalance, OverTime, YearsSinceLastPromotion, YearsWithCurrManager, Department, JobRole, and JobLevel.

Dependent variables are determined as employee performance and employee retention. PerformanceRating is used to measure employee performance, and Attrition is used to measure

employee retention with “No” being those who retained in the organization and “Yes” being those who left the organization. Control variables are Age, Gender, Education, MaritalStatus, DistanceFromHome, TotalWorkingYears, YearsAtCompany, YearsInCurrentRole, NumCompaniesWorked, and EmploymentType-related characteristics.

2.5 Data Collection Method

The study is based on HR analytics data that was uploaded previously, which is considered secondary HR analytics data. The data were analyzed for employee level data pertaining to performance, attrition, satisfaction, compensation, training and career development. The data set needs to be screened for missing data, duplicate records, irrelevant variables, and coding requirements before analysis. For advanced analysis, constants like EmployeeCount, StandardHours and Over18 may be omitted.

2.6 Data Analysis Techniques

Descriptive statistics can be used to summarize the profile of employees and important HR variables in the study. Retained employee/attrited employee comparisons can be made using comparative analysis. The relationships between SHRM-related variables, performance, and retention can be explored with correlation analysis. The effect of HR factors on employee performance and attrition can be tested using regression analysis. As this is a binary variable, models for human resource analytics can be logistic regression or classification models that find the best predictors for employee retention.

3. Results

3.1 Demographic Profile of Respondents

There were 1470 employee records in the dataset with various departments, job roles, education levels, and employment types. The average age of the employees was 36.92 years with $SD = 9.14$, covering a range from young to experienced employees. Gender-wise, 60.0% of the employees were males and 40.0% were females. On a departmental basis, most workers were in Research and Development followed by Sales and Human Resources. The overall attrition rate was 16.12% which means that 237 employees had left the organization and 1233 employees were retained. This indicates that the data set can be used to explore HR Analytics patterns for employee retention and attrition. The HR analytics data includes the demographics and job characteristics of the employees

represented in the data. Table 1 summarizes the characteristics of the employees included in HR analytics data.

Table 1. Demographic and Employment Profile of Employees

Variable	Category / Measure	Frequency / Value	Percentage
Sample size	Total employees	1,470	100.00
Age	Mean $\pm$ SD	36.92 $\pm$ 9.14	—
Total work experience	Mean $\pm$ SD	11.28 $\pm$ 7.78	—
Gender	Male	882	60.00
Gender	Female	588	40.00
Department	Research & Development	961	65.37
Department	Sales	446	30.34
Department	Human Resources	63	4.29
Attrition	No / Retained	1,233	83.88
Attrition	Yes / Left	237	16.12
Performance rating	Rating 3	1,244	84.63
Performance rating	Rating 4	226	15.37
Job level	Level 1	543	36.94
Job level	Level 2	534	36.33
Job level	Level 3	218	14.83
Job level	Level 4	106	7.21
Job level	Level 5	69	4.69

The overall pattern of employee attrition is illustrated by the employee attrition distribution in Figure 1. The 1233 workers left were the ones retained, while 237 employees left the company. This implies that most of the employees remain, but attrition is still a major HR problem that should be resolved on an effective basis.

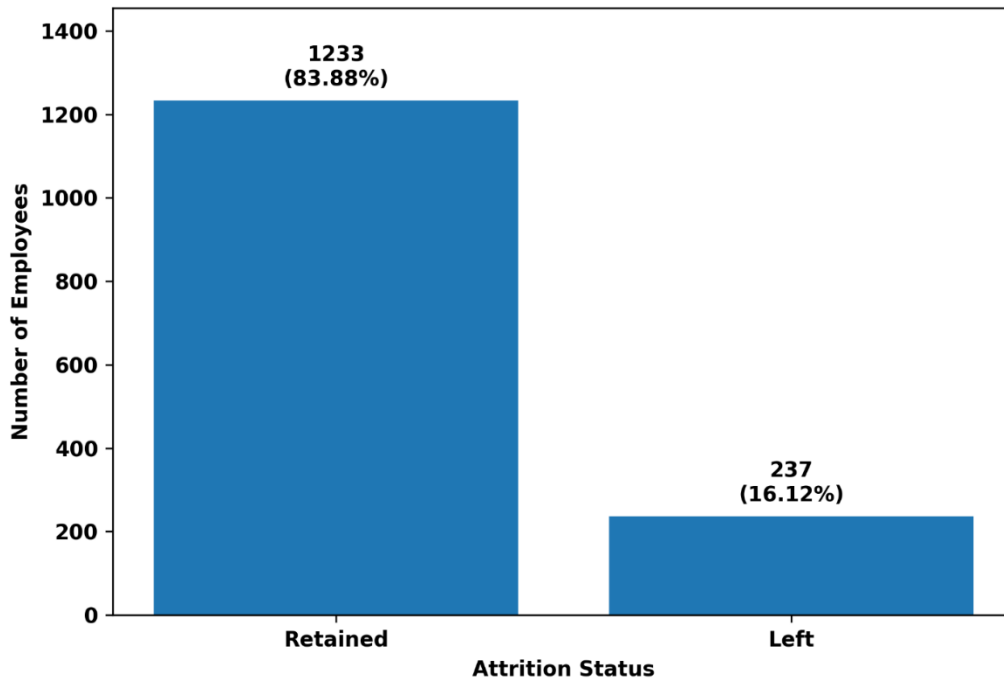


Figure 1. Employee attrition distribution in the HR analytics dataset

3.2 Descriptive Statistics of Major Variables

Major SHRM-related and HR analytics variables were calculated with descriptive statistics. The average monthly income was 6,502.93 and the mean percent increase was 15.21. Job satisfaction was rated on a 4-point scale with a mean of 2.73, job involvement of 2.73 and job work-life balance of 2.76. The average number of times trained was 2.80 times higher than last year. The average performance rating was 3.15 which means that the bulk of employees were clustered together around the standard level of performance with fewer employees having the highest rating. Descriptive statistics are presented in the form of means, SDs, minimum values and maximum values for the major SHRM-related and HR analytics variables used in the study in Table 2.

Table 2. Descriptive Statistics of Major Study Variables

Variable	Mean	SD	Minimum	Maximum
Age	36.92	9.14	18	60
Monthly income	6502.93	4707.96	1009	19999
Percent salary hike	15.21	3.66	11	25

Stock option level	0.79	0.85	0	3
Training times last year	2.80	1.29	0	6
Job involvement	2.73	0.71	1	4
Job satisfaction	2.73	1.10	1	4
Environment satisfaction	2.72	1.09	1	4
Relationship satisfaction	2.71	1.08	1	4
Work-life balance	2.76	0.71	1	4
Years at company	7.01	6.13	0	40
Years in current role	4.23	3.62	0	18
Years since last promotion	2.19	3.22	0	15
Years with current manager	4.12	3.57	0	17
Total working years	11.28	7.78	0	40
Performance rating	3.15	0.36	3	4

3.3 Reliability Analysis

The indicators used to measure SHRM were deemed to have reliability, but because a multi-item scale construct to measure a single latent variable was not included in the uploaded data set, reliability analysis of these indicators was not performed. The Cronbach's alpha is not as suitable in this context as it could be to a scale constructed from a questionnaire, since most of the variables are administrative and one item HR variables, such as income, training frequency, satisfaction scores, overtime, tenure, performance rating etc. For selected HR indicators, the exploratory alpha computed was very low, and the HR indicators should be regarded as HR analytics indicators, rather than one scale.

3.4 Correlation Analysis

The results of the correlation analysis showed that over time, tenure, income, job involvement, job satisfaction, stock options and work environment were among the major factors that were correlated with employee turnover. Income was found to be negatively related with attrition, tenure was negatively related with attrition, satisfaction was negatively related with attrition and

engagement was negatively related with attrition, indicating that income, tenure, satisfaction and engagement in the job help to retain an employee, while overtime is positively related with attrition, indicating the opposite.

Percent salary hike had the highest positive correlation with the performance rating for employee performance. There were weak correlations among the other SHRM variables, and ratings did not vary widely among the other variables. Figure 2 shows that there are significant differences between the mean scores of certain variables related to SHRM for the retained and attrited employees in terms of their satisfaction, engagement, work-life balance, training, tenure, overtime and performance.

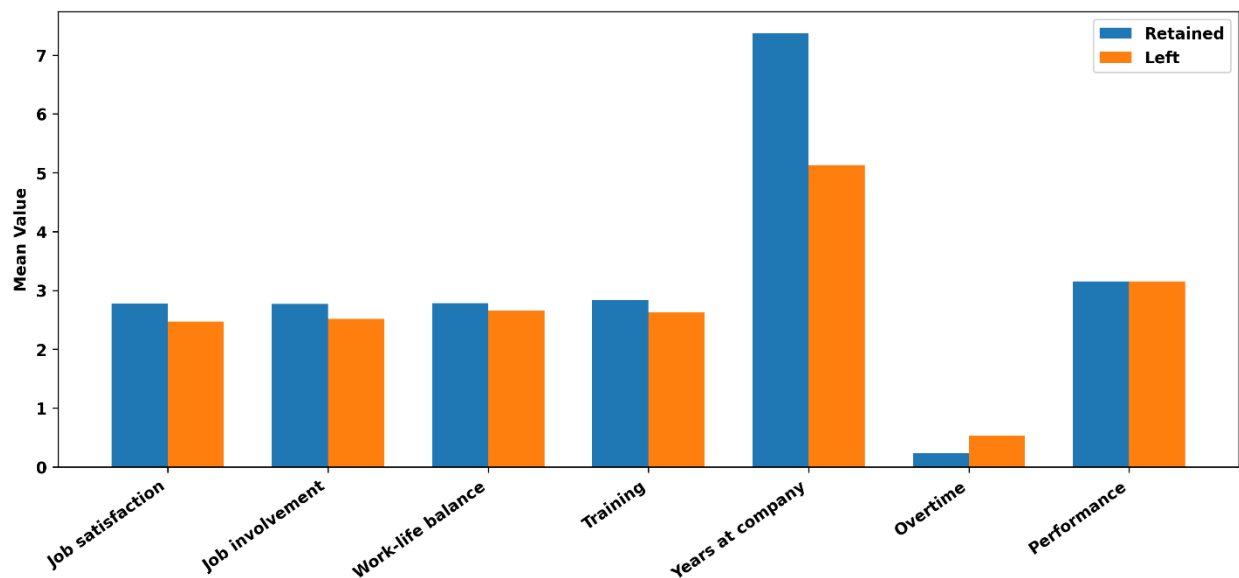


Figure 2. Mean comparison of retained and attrited employees across selected HR variables

3.5 Regression Analysis

Using regression analysis, important determinants of employee retention and performance were identified. Logistic regression showed that overtime, satisfaction measures, stock options, tenure-related variables, income, training, and work-life balance were factors influencing attrition. Over time increased the risk of attrition, while increased satisfaction, involvement, compensation, training and stable managerial relationships decreased the risk of attrition.

Delays in promotion were more likely to be the cause of turnover. The largest influence on the performance rating was the percent increase in salary, whereas other factors had smaller influences on performance. The regression analysis results revealed that the table below is the significant predictor of employee attrition and performance.

Table 3. Key Regression Findings for Employee Attrition and Performance

Outcome Variable	Significant Predictor	Direction of Effect	Interpretation
Attrition	OverTime	Positive	Employees working overtime were more likely to leave.
Attrition	EnvironmentSatisfaction	Negative	Highe renvironmental satisfaction reduced attrition risk.
Attrition	StockOptionLevel	Negative	Better stock benefits supported employee retention.
Attrition	JobSatisfaction	Negative	Satisfied employees were less likely to leave.
Attrition	JobInvolvement	Negative	Higher involvement reduced turnover tendency.
Attrition	YearsSinceLastPromotion	Positive	A longer delay in promotion increased attrition risk.
Attrition	YearsInCurrentRole	Negative	Longer role stability supported retention.
Attrition	YearsWithCurrManager	Negative	Longer association with current manager reduced attrition.
Attrition	RelationshipSatisfaction	Negative	Better workplace relationships supported retention.
Attrition	TrainingTimesLastYear	Negative	More training participation reduced attrition risk.
Attrition	WorkLifeBalance	Negative	Better work-life balance supported retention.
PerformanceRating	PercentSalaryHike	Positive	A higher performance rating was strongly linked with higher salary hike.

The correlation of selected HR analytics indicators with employee attrition and performance is also shown in Figure 3. The number inside the figure shows that the relationship between overtime and attrition is the strongest and at positive level whereas the relationship between income, job involvement, satisfaction, stock options and managerial relationships are negative. The highest positive correlation between all the variables is between performance rating and percent salary hike, indicating that reward decision making has a close relationship with performance rating.

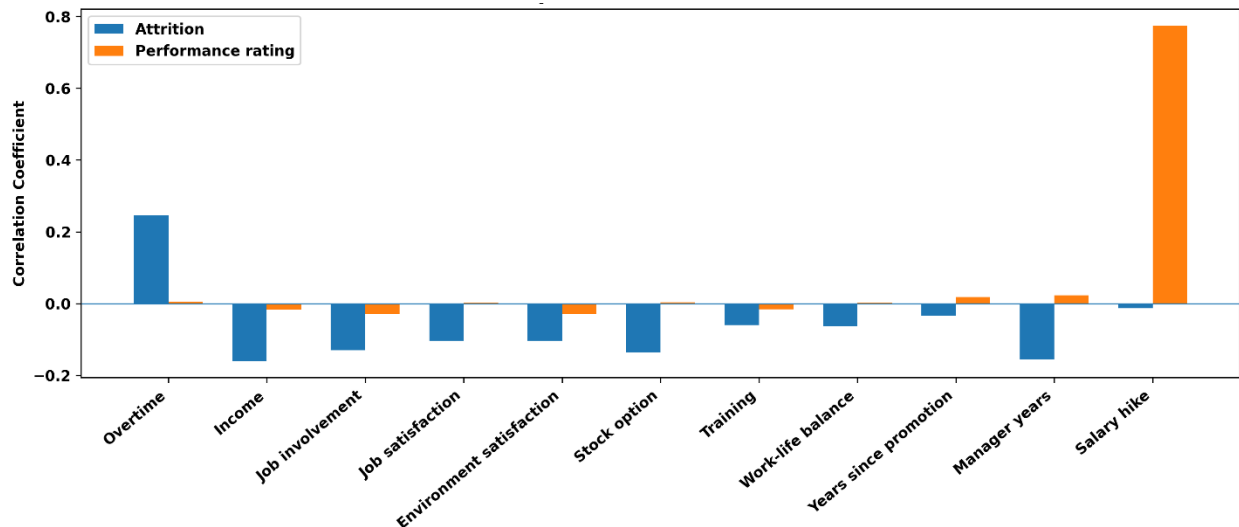


Figure 3. HR analytics-based predictors of employee attrition and performance

3.6 HR Analytics-Based Findings

Clear trends emerge from the HR analytics results. Attrition is related to working conditions: lower income for those who have left the organization (4,787.09) than for those who stayed (6,832.74), indicating a role of salary in decision making. Overtime is an important risk factor, with a higher workload linked to a higher attrition rate. Retention of the employee is vital and is associated with high levels of job satisfaction, engagement, work-life balance and training uptake.

Training is not associated with performance very well and helps to retain people by committing them. In most cases, performance ratings are clustered around level 3 and there is a strong association between the performance ratings and pay increases. HR Analytics can be applied very effectively to identify the risk of employee turnover and all other factors such as workload management, engagement, training, work-life balance and fair compensation affect retention rates.

4. Discussion

Based on the study findings, it is concluded that SHRM is very important for improving employee retention and supporting employee performance through providing data-driven HR practices. The outcomes revealed that overtime, job satisfaction, job involvement, compensation, work-life balance, training and managerial relationship are significant factors in employee retention. Those who were more satisfied with their jobs, more involved, paid higher and had stable relationships with fellow employees were more likely to stay. The results of study corroborate the idea that HR has become a strategic and value creating role instead of just administrative, thanks to the use of people analytics and new technologies (DiClaudio, 2019).

High-involvement HRM practices can enhance employee satisfaction and productivity through a deeper employee-organization relationship and alignment with organizational objectives (Garmendia et al., 2021). Likewise, job characteristics and workplace support can facilitate sustainable performance by boosting employee motivation and workplace meaning (Iqbal et al., 2021). Strategic HR practices are, therefore, still relevant even if performance ratings tend to be clustered into a few categories, to improve employee contribution and quality of work. The findings indicate that the employees' pay, stock benefits, job satisfaction, work-life balance, training, and managerial stability have a significant impact on employee retention.

The results indicated that those employees who worked overtime were more likely to leave, implying that high levels of workload can pose a risk of turnover. The results are in line with previous studies that demonstrate that employees' perceptions of HR practices affect person organization fit, affective commitment and organization attachment in the long-term (Kooij & Boon, 2018). The findings also reveal that salary is not enough for retention: A more comprehensive SHRM system encompassing tone, engagement, career opportunities, and employee well-being is needed to retain employees. In the digital age, the HRM role has evolved and organizations need to create policies that are flexible and employee-focused to keep talent within the organization and to cope with the dynamic working environment (Fenech et al., 2019). The study reinforces the importance of HR analytics for uncovering employee retention issues and patterns. By measuring workforce behaviour, HR analytics can compare the behaviour of retained employees to that of those who left and can uncover some of the factors that predict attrition. This aligns with the suggestion that HR analytics can help organizations perform better if their data-driven insights are complemented by managerial action and strategic decision-making (McCartney & Fu, 2022). But the use of HR analytics relies on digital capabilities, leadership support,

analytical skills, and organizational preparedness (Fernandez & Gallardo-Gallardo, 2021). However, credibility, validity and strategic alignment of human capital analytics is required to create competitive advantage (Minbaeva, 2018). As the field of HR analytics continues to evolve, there are ongoing challenges ethical, methodological, and practical that organizations need to grapple with carefully (Edwards et al., 2024).

The results are in accordance with the previous studies that relate to HR analytics, attrition and organizations' performance. The literature indicates that HR analytics can be utilised to gain insights into the causes of employee attrition and enhance employee performance through systematic and data-driven methods (Kiran et al., 2024). The findings also corroborate research on digital HRM and algorithmic HRM revealing that technology-based HR systems can have a supporting role in managing the workforce, decision-making and employee experience (Meijerink et al., 2021). As AI-driven HR solutions gain popularity, it further highlights the potential of digital HR practices to enhance cost-effectiveness and personalization in the workplace (Malik et al., 2023). Concurrently, the pandemic like COVID-19 has demonstrated the necessity for HRM to be more flexible, agile and employee-focused to deal with uncertainty and disruption among the workforce (Hamouche, 2023).

The study validates the concept that humans are a strategic asset and can be better understood in terms of behaviour, performance and retention by HR analytics. HR managers need to use analytics dashboards to track outlooks on attrition, overtime, satisfaction, compensation and career progression. It's time for organizations to make training more robust, introduce more reward and recognition initiatives, implement predictive analytics to detect attrition threats and harmonize HR policies with organizational strategy. Longitudinal HR analytics data, larger multi-sector samples, more sophisticated machine learning models and comparative analysis among sectors are some examples of future studies. Ethics in employee data usage and the potential for enhanced retention and performance through digital HR platforms could also be explored in future studies.

5. Conclusion

This study investigated the function of Strategic Human Resource Management towards employee performance and retention with HR analytics information. The results reveal that compensation, job satisfaction, job involvement, work-life balance, training, overtime, promotion frequency and management relationship are all HR related variables that affect employee retention. Those who did not feel satisfied, who were not deeply involved, who reported lower wages, who felt less

satisfied with their relationships with their managers, or who had unstable relationships with the managers were more likely to be expected to leave the organization. Overtime and delayed promotion were in contrast, found to be significant turnover risk factors. Results further revealed that employee performance had a strong correlation with percent salary increase, indicating that the evaluation of employee performance is tightly correlated with the decisions on employee rewards in the data set. The small range of performance ratings, however, suggests that future research should employ more elaborate measures of performance to better reflect employee productivity and work quality. Overall, the study confirms that SHRM practices are important for improving workforce stability and organizational outcomes. HR analytics can enhance this process by providing managers with visibility into patterns, forecasting attrition risks, and crafting evidence-based HR strategies. Hence, organizations need to implement data-driven HR systems, increase employee engagement, enhance training and development, provide equitable compensation, and minimize excessive workload. Integrating HRM with the organizational strategy can boost employee retention, help in the performance of the employees and make the workforce more sustainable.

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