HR Analytics: A Literature Review and New Conceptual Model

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Abstract: Human resource analytics has emerged as a new trend and challenge in the business context emphasizing the strategic value of Human Resource Management (HRM) to the top management leaders. This paper tries to achieve five objectives: 1) what HR analytics means and its importance, 2) what the process of HR analytics is, 3) possible HR questions that can be answered by HR analytics, 4) a new model for HR analytics, and 5) challenges that exist for HR analytics. A comprehensive literature review analysis was done to achieve the mentioned objectives of the paper. This study is conceptual in nature as it discusses some aspects like definitions, importance, process, models, challenges etc. under HR analytics. HR analytics is an application of research designs and advanced statistical tools for evaluating HR data to find solutions or to make sustainable decisions relating to HR issues based on evidences. Many scholars have identified that contribution of HR analytics in attaining the competitive advantage for the organization is highly considerable.

Key words: HR Analytics, HRM, Sustainable, Competitive Advantage, Organization

1. INTRODUCTION

Sustainability means a deliberate continuous attempt to utilize natural resources and other resources to meet the needs of current human beings and non-human beings while not harming the ability of future human beings and non-human beings to utilize natural and other resources to meet their needs (Opatha, 2019). According to Kirtane (2015) sustainable HRM practices include green HR practices, HR analytics and HR Metrics which are being used in various functions of HRM. Rapid digital transformation has increased the requirement of HR analytics solutions and services and this has caused the world including the Asia pacific region to grow fastest in HR analytics (Gurusinghe et al., 2019).

It was in 1978 that Dr. Jac Fitz-enz emphasized the idea of developing metrics that can determine the impact of HR activities on organization's bottom line and developed the notion as HR analytics (Jain and Nagar, 2015). After the great recession period 2008, most of the organizations recognized the necessity of accurate evidence based people management practices which involve analytics, decision making and problem solving (Reddy and Lakshmikeerthi, 2017). Big data in HR gifted HR analytics to the evidence based HRM concept to make accurate decisions regards to HR (Reddy and Lakshmikeerthi, 2017).

In present context the language of business is considered as numbers. Based on the numbers which derive from descriptive, predictive and prescriptive analyses organizational decision makers take decisions. Thus, organizations are trying to improve the accuracy of decisions while improving their effectiveness and efficiency through data analytics. Data related to every aspect of employees in the organization should be well assessed, evaluated and analyzed to make suitable decisions regarding to employees' issues (Lochab et al., 2018). HR analytics is a powerful tool that has the possibility of adding positive value to the functions of HR department and improving the effectiveness and efficiency of every associated aspects of it through logical and numerical explanations. The use of data in HR is referred as "workforce analytics," "human capital analytics" or "HR analytics". With the help of HR analytics, HR professionals make decisions which enable to attract, retain and improve the employee performance and an organization can maintain its' success in the long run only if it keeps itself updated with the latest trends happening in the field of HR analytics (Reena et al., 2019). One of the major advantages with HR analytics is that it is an evidence based study, which helps the HR professionals in making rational decisions whilst enhancing the strategic impact of

HR on the business performance (Singh et al., 2017). Thus, HR analytics has moved from an operational partner to a more strategic center of excellence (Malla, 2018).

In Sri Lanka only several researches have been done on HR analytics. Thus, there is a contextual gap regarding the HR analytics literature in Sri Lanka and also there is an intellectual curiosity to know about HR analytics. This paper is an attempt to explore and describe what HR analytics means and its importance, what the process of HR analytics is, the possible HR questions that can be answered by HR analytics, a new model for HR analytics and challenges exist for HR analytics.

2. RESEARCH QUESTIONS AND OBJECTIVES

Following research questions were formulated under this conceptual study on HR analytics.
1. What is HR analytics? What is its importance?
2. What is the process of HR analytics?
3. What are the possible HR questions that can be answered by HR analytics?
4. What are the challenges that exist for HR analytics?

This research paper has its objectives to find answers for the above mentioned four specific research questions and to introduce a new model on HR analytics.

3. METHOD

This research paper is a study which gives a theoretical contribution to the existing body of knowledge in HR analytics. It introduces a new model of HR analytics with an example and tries to find answers for four research questions systematically. A comprehensive literature survey was done by using the desk research strategy in addition to the logical beliefs of the author.

4. HR ANALYTICS

Human resource management has become one of the most critical functional fields in an organization (Opatha and Uresha, 2020). Opatha (2009) defines HRM as the efficient and effective utilization of human resources to achieve goals of an organization and the generic purpose of HRM is to generate and retain appropriate and contented employees who give their maximum contribution to achieve organizational objectives and goals. Human resources include all types of employees who work for the organization. In present competitive business environment human resource has become a strategic asset to the company as it is rare, valuable, inimitable and non-substitutable.

One of the founders of the analytics movement has said: "*Unquestionably, analytics is going to give HR a major makeover and analytics is the engine of business intelligence while it is a prerequisite for sustainable performance of the organization"* (Fred and Kinange, 2015). Analytics has interactions with much disciplines like computer, engineering, science etc. (Lochab et al., 2018). Analytics are three types i.e. descriptive analytics, predictive analytics and prescriptive analytics (Fred and Kinange, 2015). Descriptive analytics applies simple statistical techniques like mean, median, variance, standard deviation etc. and describe what contained in the data set (Fred and Kinange, 2015) and answer the questions of "what happened?" or "what is happening?" (Jabir et al., 2019). Predictive analytics applies advanced statistical methods (regressions analysis, correlation analysis, independent sample T test etc.) to identify predictive variables and build predictive models to identify future trends, relationships, impacts, differences etc. According to Jabir et al. (2019), its major outcome is to answer the questions of "what will happen?" or "why will it happen?". Prescriptive analytics applies decision making science, management science, and operations research methodologies to make best use of limited resources (Fred and Kinange, 2015) while it answers the questions of "what should be done?" or "why should it be done?" (Jabir et al., 2019).

Different scholars have defined HR analytics in various ways and following paragraphs consist of HR analytics definitions given by some scholars and researchers.

Kirtane (2015) - HR analytics is an integrated process that improves the individual and organizational performance by assisting to improve the quality of people related decisions. HR analytics mostly depends on statistical tools and analyses and requires high quality data, well-chosen targets, talented analysts, leadership, as well as broad-based agreement that analytics is a legitimate and helpful way to improve performance.

Dooren, (2012) as in Lochab et al. (2018) - A methodology for understanding and evaluating the causal relationship between HR practices and organizational performance outcomes (such as customer satisfaction, sales or profit etc.), and for providing legitimate and reliable foundations for human capital decisions for the purpose of influencing the business strategy and performance, by applying statistical techniques and experimental approaches based on metrics of efficiency, effectiveness and impact.

Jain and Nagar (2015) - A mixture of quantitative and qualitative data and information that derives important insights which help to support in making decisions by the management.

Vihari and Rao (2013) as in Ben-Gal (2018) - The application of sophisticated data mining and business analytics techniques to the field of HR.

Kapoor and Sherif (2012) - HR analytics means managing key HR related data and documents in order to analyze the gathered data using business analytics models and disseminate the analyzed results to decision makers for making appropriate decisions.

Reddy and Lakshmikeerthi (2017) - Evidence-based HR (EBHR) is a decision-making process combining critical thinking with the use of the best available scientific evidences and business information. It uses data, analyses and research to understand the connection between people management practices and business outcomes, such as profitability, customer satisfaction and quality.

Jabir et al. (2019) - HR analytics is about analyzing and understanding how and why things happen, produces alerts about what the next best action is, and make interpretation about what the best and the worst are that can happen based on the analyzed data.

Boudreau and Ramstad (2004) as in Levenson (2005) - HR Analytics is about statistics and research design, but it goes beyond them, to include identifying and articulating meaningful questions, gathering and using appropriate data from within and outside the HR function, setting the appropriate standards for rigor and relevance, and enhancing the analytical competencies of HR throughout the organization.

Bhattacharyya (2017) - The application of analytic logic for the HRM function.

Kiran et al (2018) - HR Analytics means providing a data driven framework for solving business problems using existing information to drive new insights. It is about smart decision making, delivered with the combination of software, hardware and methodologies that applies statistical models to work related data, allowing business leaders to optimize human resource management.

Considering the above definitions, HR analytics can be defined "as the application of research designs and advance statistical tools for evaluating HR data to find solutions or to make sustainable decisions relating to HR issues based on evidences for the purpose of supporting in achieving competitive advantage for the organization through resource based view".

5. IMPORTANCE OF HR ANALYTICS

HR Analytical practices are contributing to build a sustainable organization as these practices are balancing social, environmental and economic factors for short and long term perspectives (Kirtane, 2015). As per Ben-Gal (2018) HR analytics has several goals 1) to gather and maintain data in a meaningful way for predicting short and long-term trends in the supply and demands of employees in different industries and occupations; 2) to help global organizations to make decisions relating to optimal acquisition; 3) to develop and retain of human capital; 4) to provide an organization with insights for effectively managing employees in order to achieve business goals quickly and efficiently; and 5) to positively influence the successful implementation of an organization's strategies. In addition, the major purpose of HR analytics is to enhance the organizational sustainability by making intelligent HR related decisions after the analysis of gathered data in a meaningful way using analytical techniques in order to enhance organizational performance. According to Kiran et al. (2018); Bhattacharyya (2017); Kirtane (2015); Reena et al. (2019); Reddy and Lakshmikeerthi (2017); Fred and Kinange (2015), benefits of HR analytics are as follows.
   1. Improves the performance of the employees.
   2. Improves ROI (Return on Investment) of human resources.

3. Provides opportunity to assess how employees contribute to the organization and assesses the extent to which they can meet their career expectations.
4. Forecasts workforce requirements and determines how to fill the vacant positions.
5. Links workforce utilization to strategic and financial goals to improve business performance.
6. Forecasts future HR trends and patterns in terms of various aspects (Eg: turnover, absenteeism etc.).
7. Identifies the factors that lead to greater employee satisfaction and productivity.
8. Discovers the underlying reasons for employee attrition and identifies high-value employees at risk of leaving.
9. Establishes effective training and development initiatives.
10. Assesses the information by using various HR metrics.
11. Helps managers in rational decision making.
12. Measures the financial impact on human resource practices.
13. Determines the individual who fits into the culture of the organization by analyzing job involvement, employee engagement, employee commitment etc.
14. Gives useful inputs for HR to predict the employees who can be upskilled to become experts based on data on employee performance, background education, discipline background etc.
15. Credibility for the discipline of human resource practice and for practitioners improves.
16. HR executives will be included in the strategic conversations, because they can quantify their numerous impacts on business outcomes.
17. HR departments can be held accountable for impacting the bottom-line the same way business or product leaders are held accountable.
18. Greater ability to justify human capital investments.

6. HR ANALYTICS PROCESS

According to Jain and Nagar (2015) the road map of HR analytics consists of five stages.

1. Defining Objectives of HR Analytics

HR professionals must first determine the top most critical objectives to conduct HR analytics based on organizational strategic aims. For example, objectives might be to know the factors that contribute to improve the employee productivity, to estimate the turnover rate of employees for the next year, to find out the degree of employee satisfaction, to find out the impact of work place hazards on employee performance etc.

2. Data Collection

Once HR professionals identified what HR-related objectives are, the data relevant to the variables of the objectives needs to be collected. Surveys, observations, interviews, computerized systems (Eg: Human Resource Information Systems) enable HR professionals to collect data.

3. Assessment of HR Metrics

Next step is to determine the HR metrics that an organization will use for decision-making based on the collected data for the identified objectives. Simply this involves determining measurements to measure the HR variables. For an example following Table 1 depicts the HR metric for each identified objective of HR analytics.

Table 1:HR Metric for Each Identified Objective of HR Analytics.

Objective	HR metric
To find out the turnover rate of employees	Rate of employee turnover
To find out the degree of employee satisfaction	Employee satisfaction index
To find out the impact of work place hazards on employee performance	Work place hazards index and employees' performance evaluation scores

4. Analysis of data

This is the fourth stage of the process that requires highly developed statistical analyses to analyze the data in order to derive meaningful information. This needs HR departments a strong logical establishment to make effective human assets decisions. For an example to find out the impact of work place hazards on employee performance, needs to carry out a regression analysis and if the regression analysis is negative and significant it can be said that there is a significant negative impact from work place hazards on employee performance. Further, to find out the turnover rate

of employees, needs to divide the number of employees left from the organization during a specific time period by the total number of employees stayed during that period.

5.   Decision making stage

After analyzing the data and deriving the meaningful information, the final stage is to make decisions based on them. Most of the times this requires to make decisions about the alterations of the existing HR policies, procedures and process or making new HR policies, procedures and processes to achieve the organizational strategies. For an example after finding that there is a significant negative impact from work place hazards on employee performance, HR needs to update their existing policies and procedures or to make new policies and procedures to prevent workplace hazards.

Bhattacharyya (2017) has explained relevant steps for alignment of HR analytics with business goals and strategies.
1.   Framing of queries or questions.
2.   Understanding appropriate data and metrics.
3.   Building an appropriate platform for HR analytics.
4.   Gradual enhancement of HR analytics capabilities.
5.   Disseminating the importance and value of HR analytics.

As per Kirtane (2015) activities in HR analytics are:

•   Reporting

Reporting is about taking decisions regarding, (a) what HR metrics will be reported? (b) how? (c) when? and (d) to whom they should be reported? It is necessary to identify the organizational strategies, HR problems and opportunities in order to identify the HR metrics (eg- employee cost, turnover, return on human capital etc.) that need to be reported. "How HR metrics should be reported?" involves depicting or presenting metrics for decision makers in a way that they can clearly understand. "When" question is about the frequency of HR metrics are being reported. In most cases, HR metrics are being reported annually, quarterly, monthly or weekly. "To whom" question addresses who receive HR metrics data in order to make quality decisions relate to human resources. It is mostly common for metrics to be reported first to senior executives. Kiran et al. (2018) revealed that HR analytics tools are used by majority of HR executives in making strategic decisions for organization while non-HR executives use analytical tools for effective decision making to some extent.

•   Data Mining

Data mining is about using raw data and analyze them properly with the help of statistical tools and methods in order to generate useful and meaningful information. For an example after analyzing two data bases relate to employee job satisfaction and job performance with the assist of correlation analysis it is found that employee job satisfaction and job performance are positively correlated.

•   Dashboards

The dashboard allows decision makers to identify the current snapshot of key HR metrics in a more simple and dramatic way. Dashboard helps HR professionals to make graphical presentations on conclusions and information derived after analyzing large scale of data. This helps all the managers to simply understand the information depicts through the charts and tables at a glance. Due to the interactive nature, HR dashboard is an effective tool for reporting and presentations (Chib, 2019).

•   Predictive Analysis

This attempts to develop policies, procedures and models for organizational HR systems after analyzing the future outcomes, trends and patterns extracted from the current data sets. For an example after analyzing the employee job satisfaction and turnover data, it is identified that employee turnover rate will increase within next year as their job satisfaction is low. To prevent this situation organization needs to take immediate actions to enhance the employee job satisfaction by making changes into their HR system.

•   Operational Experiments

The evidence-based management argues that managers should take their decisions based on evidence/data about the actual functioning of its systems rather than using personal philosophies or hypothetical models or assumptions about "how things work" (Reddy and Lakshmikeerthi, 2017). HR analytics provides evidence based data which ultimately

contributes to make correct decisions relating to human resources. It is the responsibility of HR department to look back on the decisions they made using HR analytics and see whether expected outcomes were received.

Considering the above literature the author has developed a process for HR analytics and this is explained under the topic of "New Model for HR Analytics".

7.   POSSIBLE HR QUESTIONS TO BE ANSWERED BY HR ANALYTICS

According to Jain and Nagar (2015) and the author's opinions following Table 2 shows some questions relate to some of the HRM functions/fields and these questions can be answered by using HR analytics.

Table 2: Possible HR Questions to be Answered by HR Analytics

| HR function/field	Possible questions to be answered by HR analytics
Employee Planning and Staffing	a) Did the utilized source of recruitment create the expected group of potential candidates for selection? b) Does the candidate possess appropriate Knowledge, Skills and Attitude (KSA) that match with the job specification? c) Is the candidate interested in the job being offered to him/her? d) What induction method would have the highest impact?
Training and Development	a) What T & D methods would have the maximum impact on employees' job effectiveness? b) What is the ROI (Return on Investment) of training program? c) What training programs would assist to address the identified employee training needs? d) What is the level of transfer of training of the employees?
Remuneration	a) What should be the determinants of compensation? b) Are the jobs evaluated properly? c) Does the existing remuneration program affect employees' satisfaction and morale? d) Does the remuneration program is superior than that of the rivals? e) Does the remuneration package ensure the four equities (input, internal, external and primary)? f) Does organizational remuneration program attract talented employees from the industry?
Performance Appraisal	a) Does employees' performance result into profitable consequences? b) What members' performance drive the customer satisfaction? c) Are employees contributing to essential business processes? d) Do the employees have right knowledge, skills and attitudes in order to do the job as expected?
Health and Safety Management	a) What employee categories are more open to workplace hazards? b) What is the accident ratio of the organization? c) Is there any relationship between sound health and safety of employees and their performance? d) What are the profitable consequences of minimizing workplace accidents?
Grievances Handling	a) What type of grievances do employees suffering most? b) What is the impact of grievant employees on organizational performance? c) What is the best intervention to identify employee grievances? d) How many grievances have been solved?

LMR (Labor Management Relations)	a) What factors contribute most to maintain positive relationships between employers and employees? b) Does healthy LMRs positively impact on organizational performance? c) What union actions negatively impact the business process most? d) What factors contribute employees to form trade unions?

Above possible questions and many other questions can be answered by HR analytics using statistical tools or algorithms. Data can be gathered by developing questionnaires, conducting interviews and utilizing financial and other related business reports. As an example, to find the ROI of a training program, training cost and training benefit must be calculated and the relevant formula is [(Training Benefits – Training Cost) / Training Cost]. If the ROI is more than 1 it implies that organization has gained more benefits than they spent. Further, to find the accident ratio, number of accidents needs to be divided by the number of employees. If the accident ratio is high then decision makers have to take remedial actions against workplace accidents.

8. A NEW MODEL FOR HR ANALYTICS

HR analytics applies statistical models to get insights into employee data and this makes managers possible to predict employee behavioral patterns like attrition rates, training costs, and employee contribution (Mohammed, 2019). Mohammed (2019) explains, *"A typical HR Analytics System collects employee data from HRIS (Human Resources Information System), business performance records, mobile applications and social media merges into a data warehouse, applies big data, statistical analysis and data mining techniques to provide understanding of hidden data patterns, relations, probabilities and forecasting. A Data Warehousing System deals with the data collection, analysis, and transformation and storing data on various databases"*.

Figure 1:HR Analytics Model Developed by Mohammed (2019)
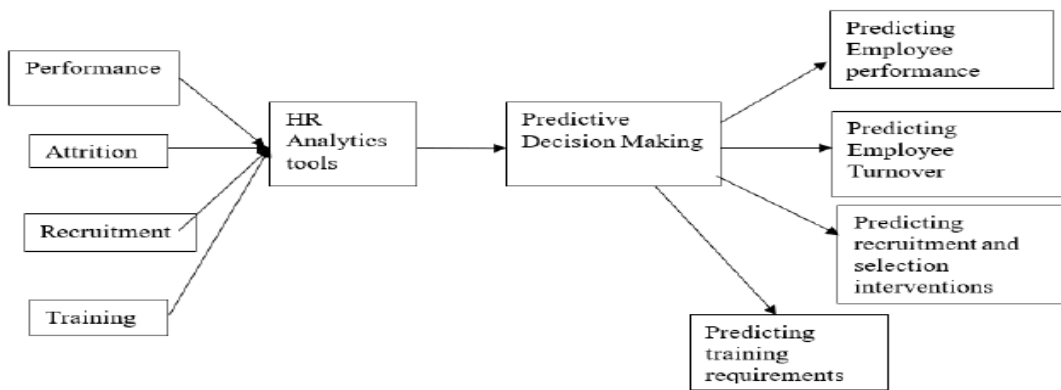
Source: Mohammed (2019)

Mohammed (2019) has developed a modern tool (Figure 1) in HR for predictive decision making which explains that HR data relating to employee performance, attrition, recruitment and training etc. are analyzed through the use of HR analytics tools or statistical tools. As a result, based on the analyzed data predictive decisions can be made with regard to employee performance, attrition, recruitment and training etc. This model was designed considering the relevance of effective decision-making for organizational success and progress of success.

In addition, another framework for HR analytics which is called LAMP framework was developed by Boudreau and Ramstad in 2004. LAMP stands for logic, analytics, measures and process. It is believed that these components contribute to drive the organizational effectiveness and efficiency (Bhattacharyya, 2017). Considering the above literature review a new model for HR analytics is developed and it is depicted in Figure 2.

The model is explained below.

Step 01 - Decide objectives and queries relating to employee performance, training, recruitment, selection, turnover, absenteeism, employee health and safety and other HR related practices that need to be answered through HR analytics.

Step 02 – Decide metrics for the variables that need to be measured to derive the final conclusion in accordance with the identified objectives.

Step 03 - Collect, organize and store the data for the identified metrics. Data can be collected using methods like questionnaires, interviews, observations etc.

Step 04 - Analyze the data using statistical tools or mathematical algorithms. For this, statistical tools like SPSS, Minitab, Stata, SAS, R, JASP, Excel can be utilized. Further, statistical techniques like descriptive statistics analysis, factor analysis, correlation analysis, regression analysis etc. can be performed.

Step 05 - After analysis, derived conclusions and information need to be present using HR dashboards to the decision makers.

Step 06 - Appropriate decisions are made relating to the identified HR objectives and questions in descriptive, predictive and prescriptive ways.

Figure 2: New Model for HR Analytics
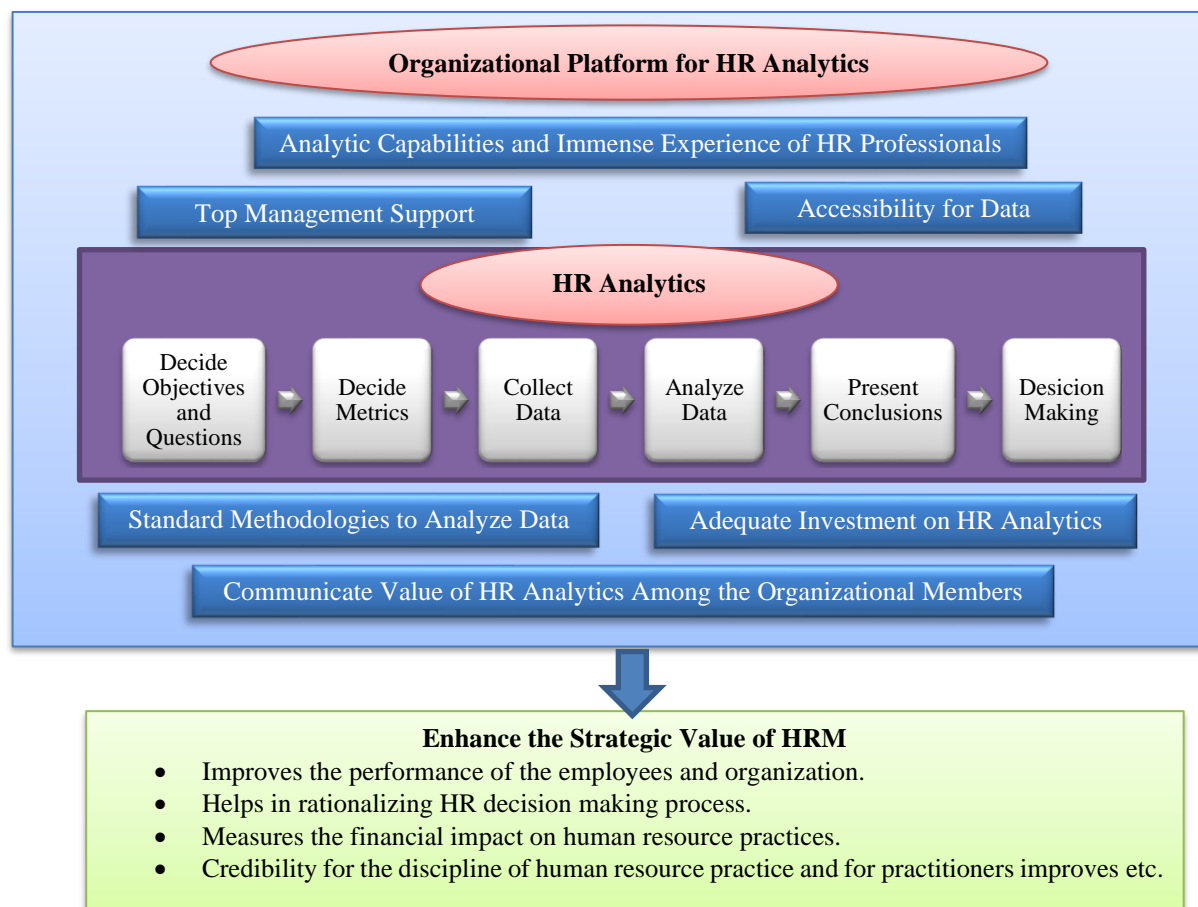
Example
Step 01 – If the organization wants to invest funds on initiatives which raise the employee satisfaction, what impact will it cause for employee turnover

Step 02 – Relevant metrics are,

- Employee Satisfaction Index
- Employee Turnover Rate

Step 03 - Collect, organize and store data for the identified metrics. Assume that organization could gather employee satisfaction survey data and employee turnover data for at least last 12 months.

Step 04 – SPSS statistical tool was used and as statistical techniques, descriptive statistics analysis, regression analysis and correlation analysis were utilized. Using hypothetical data correlation and regression analyses were carried out. Descriptive analysis is depicted in Table 3 while correlation analysis is shown in Table 4 and regression analysis results are shown in Table 5, 6, and 7. As per the analysis correlation value is negative and significant, which means that lower the employee satisfaction higher the employee turnover will be. Under regression analysis, the R square value is positive and significant (35% of variance in employee turnover is explained by employee satisfaction). So that, it can be concluded that investing funds on initiatives which raise employee satisfaction will have a positive impact on reducing employee turnover for future months and years.

Table 3: Descriptive Statistics Analysis

Variable	Mean
Employee Turnover	33.91
Employee Satisfaction (5 point likert scale)	2.4

Table 4: Correlation Analysis

		Turnover	Satisfaction
Turnover	Pearson Correlation	1	-.597*
	Sig. (2-tailed)		.041
	N	12	12
Satisfaction	Pearson Correlation	-.597*	1
	Sig. (2-tailed)	.041	
	N	12	12

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.597a	.356	.292	5.10587

a. Predictors: (Constant), Satisfaction

Table 6: ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	144.218	1	144.218	5.532	.041b
	Residual	260.699	10	26.070		
	Total	404.917	11			

a. Dependent Variable: Turnover
b. Predictors: (Constant), Satisfaction

Table 7: Coefficients Table

| Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	44.952	4.918		9.141	.000
	Satisfaction	-4.566	1.941	-.597	-2.352	.041

a. Dependent Variable: Turnover

Regression equation for the above analysis is,
Employee Turnover (Y) = -4.566*Employee Satisfaction + 44.952

If the organization increases initiatives on enhancing employee satisfaction by 20%, employee turnover will reduce by 39.47%.

Step 05 - Derived conclusions need to be present using charts (Figure 3) tables, graphs in a HR dashboard to the decision makers for effective decision making.

Figure 3: Scatter Diagram
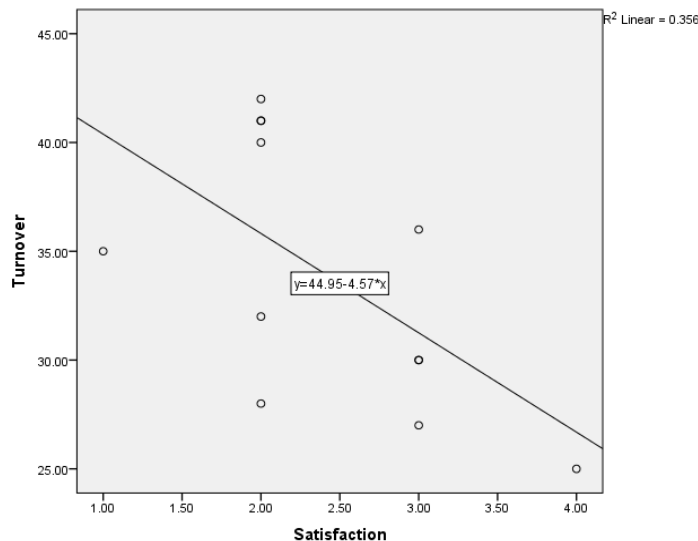
Step 06 - Decisions are made for the following questions in accordance with the performed descriptive, predictive and prescriptive analyses.
- Descriptive – Whether the degrees of employee satisfaction and employee turnover are high? (Consider mean values)
- Predictive – Will organization need to invest more funds on increasing employee satisfaction efforts to reduce turnover? (Consider correlation and regression analyses)
- Prescriptive – What need to be done to low satisfied employees to reduce their possibility of leaving the organization? (Eg – Increase employee benefits, enhance working conditions, improve opportunities for career development etc.)

Further, a strong platform which includes following characteristics needs to be possessed by the organization in order to perform HR analytics successfully:
- Top management support
- Analytic capabilities and immense experience of HR professionals
- Communicate value of HR analytics among the organizational members
- Adequate investment on HR analytics

- Standard methodologies to analyze data
- Accessibility for data

Stronger the organizational platform for HR analytics it is easier for the HR professionals to execute HR analytics. Successful performance of HR analytics will lead to enhance the strategic value of human resource management.

9. CHALLENGES FOR HR ANALYTICS

As the attributes of human resources are very difficult to measure and quantify understanding and predicting the human behavior is a big challenge that every organization has to face today (Momin and Mishra, 2016). Due to the fact that human aspects are hard to measure HR managers face various challenges. To face these challenges HR analytics is introduced. However, performance of HR analytics also not easy as HR professionals have to face challenges when implementing HR analytics. According to Malla (2018) HR analytics challenges are:

Curating data: It is vital to organize and integrate data, collected from many operations and departments within the organization in order to implement HR analytics. Further, HR professionals need to properly present the data in a way that they can be evaluated meaningfully and these collected data should be remained carefully for future purposes.

Lack of data analytics knowledge and skills: Even though HR analytics has become a major source for competitive advantage, the truth is that the analytics abilities of most HR professionals are limited and not enough to carry out the process of HR analytics. Thus, organization needs to invest on training of suitable managers to perform HR analytics in order to make decisions relate to human resources efficiently and effectively. Training on statistical methods is highly important to convert data into meaningful insights. Without analytical capabilities HR professionals and business leaders cannot take accurate conclusions (Reddy and Lakshmikeerthi, 2017).

Privacy and compliance: HR professionals must consider privacy when collecting data from employees. Collecting personal details of employees may sometimes lead the company to have legal troubles.

Lack of support from the top management: Support from senior executives is also essential to successfully carry out the HR analytics within the organization. If they do continuously encourage a data driven culture within the organization, it becomes a source of motivation for other managers to engage in evidence based processes and they try to make more accurate people related decisions based on data experiments.

Further, Kiran et al (2018); Dooren, (2012) as in Lochab et al. (2018); Jabir et al. (2019) have identified major impediments to the application of HR analytics.

- Translating business issues into data analysis questions is quite hard
- Presenting results back to the business in a clear, compelling way using HR dashboards
- Inconsistent and inaccessibility of data
- Data quality issues
- Lack of standard/generic methodologies to analyze HR data
- Funding issues
- Wrong or not targeting the right analytical opportunities
- Improper timing
- Lack of experienced people that can understand and deploy the analytical systems
- Models are complex to deploy and take much time

Organizations are required to apply an integrated approach that combines technology and skill manpower to implement human resource analytical solutions for better results.

10. DISCUSSION AND CONCLUSION

HR Analytics is an emerging discipline that enables HR to fulfill the promise of becoming a true strategic partner (Levenson, 2005). Analytics can enhance the power of data enabling HR professionals to integrate their knowledge with these data to take appropriate actions while helping them in making predictions about future (Bhattacharyya, 2017). Analytics ensures that insights from HR data provide legitimate and reliable foundations for intelligent human capital decisions emphasizing that analytics is an essential addition to deep and rigorous logic for an effective measurement system (Reddy and Lakshmikeerthi, 2017).

HR analytics is more important as it improves the performance of the employees, improves ROI of human resources, provides opportunity to assess how employees contribute to the organization, forecasts workforce requirements and determines the best ways to fill the vacant positions, links workforce utilization to strategic and financial goals to improve business performance etc.

It provides statistically valid information and evidences that can be used in the process of creating new HR decisions during the implementation of existing HR strategies and other measures. The relationship between human resource analytics and the role it plays in improving strategic value of HR is positive and considerably high. Business understanding, data gathering and mining skills, analytical skills, communication and presentation skills etc. are crucial for any HR professional who intends to execute HR analytics.

This study concludes that HR analytics provides a data-driven framework for solving workforce problems through analyzing data with a combination of software and methodologies that applies statistical models and derives new insights for smarter decision making that allow enterprise leaders to optimize human resource management while enhancing the strategic value of HRM.

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