

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT

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HUMAN RESOURCE (HR) ANALYTICS: EMERGING TREND IN HRM (HRM)**DIMPY HANDA****ALUMNI****DEPARTMENT OF COMMERCE****DELHI SCHOOL OF ECONOMICS****DELHI UNIVERSITY****DELHI****GARIMA****ASST. PROFESSOR****ZAKIR HUSAIN POST GRADUATE EVENING COLLEGE****DELHI****ABSTRACT**

HR function is recognised as a strategic partner of large corporations. To be a consistent strategic partner, HR analysis can provide direction to HR actions. But often it is noticed that HR lacks data based decision-making and analytic capability needed to influence strategies. It was in 1978 that Dr. Jac Fitz-enz proposed the idea of developing metrics that can measure the impact of HR activities on organisation's bottom line and referred the concept as HR analytics. HR analytics refer to the fusion of quantitative and qualitative data and information to have an insight and decision making support to the management of people in organisations. Its use has now become an emerging trend among the organisations that are interested in leveraging on their human capital. The paper is divided into four sections to have an absolute understanding of HR analytics. Firstly, the paper introduces the concept and history of HR analytics. Secondly, the paper identifies various functions of HRM --- Training and Development, Employment, Remuneration, Performance Appraisal, Separation and Talent Management/Succession Planning where HR analytics can be used and the purpose for which they can be used. Thirdly, the paper explains the roadmap of conducting HR analytics. The roadmap consists of five-step process: (a) Defining objectives of HR analytics (b) Data collection (c) Assessment of HR metrics (d) Decision making stage and (e) Alteration in decision. Lastly, the paper comes around the future of HR analytics--- Predictive HR analytics. While HR analytics are reactive in nature, Predictive HR analytics is proactive.

KEYWORDS

Human Capital, Human Resource Analytics, Human Resource Management, Predictive HR Analytics, Succession Planning.

I. INTRODUCTION**EVOLUTION OF HR ANALYTICS**

The role of HR is critical in enabling the organisation to effectively deal with external environment challenges; the HRM function is being emerged as a strategic partner of large corporations in formulation of organisation's strategies and in the implementation of such strategies through human resource planning, training, employment, appraisal and rewarding of personnel. Recent researches propose, however, that HR is not making much advancement toward becoming a strategic partner in spite of the belief by HR professionals that it should (Lawler & Mohrman, 2003a; 2003b). The reason behind this shortfall is that HR lacks the nature of being analytic and lacks data-based decision-making competence, needed to influence any business strategy. This situation is primarily because HRM as a discipline has failed to develop the right metrics and analytic models. When it comes to Finance, Marketing, and Operations department in the organisations, they have the constructive evidence of their contribution towards organisational profitability such as profit and loss statement, sales report, balance sheet, etc. HRM also often fails to establish its relationship with effectiveness of organisation.

According to a Workforce Management article published in 2004, "In 1978—in this publication—Jac Fitz-enz proposed a radical, anti-establishment idea. Human resources activities and their impact on the bottom line could—and should—be measured. The reaction was apathy, disagreement and disbelief" (Caudron, 2004). Dr. Jac Fitz-enz dedicated his major part of life in quantifying the effectiveness of HRM function and enhances its reputation from 'a function that creates cost' to 'a function that contributes to profitability'.

These efforts began from budding fundamental details --- defining HR metrics such as hiring, staffing, compensation and retention. This led to data collection that was comparable across organisations resulting into benchmarks of HR metrics. Major research work on HR metrics between the 1980s and 1990s was then devoted towards refining and improving the benchmarks of HR metrics. This benchmarking enabled organisations to gain competitive advantage through their human resources. But these benchmarks also created a detrimental effect that organisations start believing in 'one solution for all problems' notion. Organisations thought that just by imitating their competitors on some HR metrics, their job was done.

But this situation took a drastic turn in the last decade with the introduction of Human Resource Information System (HRIS) which not only provided organisations with data but also with decision-making mechanisms. This convergence of HR metrics and HRIS created new horizons for leveraging on HR.

CONCEPT OF HR ANALYTICS

HR analytics refer to the fusion of quantitative and qualitative data and information to have an insight and decision making support to the management of people in organisations. Its use has now become an emerging trend among the organisations that are interested in leveraging on their human capital.

The executives of a very renowned company, KPMG, defined HR analytics as "the application of statistical techniques (for example, factor analysis, regression and correlation) and the synthesis of multiple sources to create meaningful insights – for example, employee retention in office X is driven by factors Y and Z. Similarly, various authors and philosophers tried to define the term 'HR analytics' from their perception. A summary of such viewpoints and definition based on those viewpoints are presented in Table 1.

TABLE 1: VARIOUS DEFINITIONS OF HR ANALYTICS

HR Analytics Viewed as	Definitions
Process	Systematically reporting on a range of HR metrics--- hiring, staffing, compensation and retention.
Tool for Comparison	Benchmarking on HR metrics and comparing the components for implicit and explicit purposes.
Predictive Model	Provides answers to 'What if' scenarios.
Performance Driver	The application of a methodology and integrated process for improving the quality of people-related decisions for the purpose of improving individual and/or organizational performance (Bassi, et.al., 2010).
Talent Analytics	Range of applications from simplest human-capital facts to most sophisticated analytics that help optimize the talent supply chain (Davenport, et.al., 2010).

HR analytics is better understood when we categorise the HR metrics. Organisations need to collect data on three types of HR metrics to better understand and evaluate HR actions, HRM based strategies and finally organisational performance. They are efficiency, effectiveness, and impact (Boudreau & Ramstad, 2003a).

The first type is 'efficiency HR metrics'. These metrics attempt to answer the following question: 'Does HR functions contribute to organisational bottom line?' Productivity, HR headcount ratios, time to fill open positions, and administrative cost per employee are some examples of efficiency HR metrics. The second type of HR metrics is effectiveness, which focuses on whether HR programs and practices have the intended outcome on the talent pools toward which they are directed. The third and final type is 'impact HR metric'. These metrics concern it with optimizing the capabilities and the core competencies of the organisation that can be collected in order to measure the impact of HR programs and practices (Lawler, 2003).

II. HRM FUNCTIONS

This section of paper recognizes various roles of HRM --- Employment, Training and Development, Remuneration, Performance Appraisal, Talent Management/Succession Planning and Separation where HR analytics can be used and the purpose for which they can be used.

EMPLOYMENT

Employment includes various other functions such as recruitment, selection, placement, etc. of personnel. The core of successful hiring at any level is to find right candidate with right qualifications for vacant position at the right time. Conventionally, when HR comes across a potential candidate, it collects the relevant historic data and makes the best possible judgment based on that. For example, collected data may include requirements for the position, candidate's qualifications, previous performance and exchanges during the interview process and reference checks. But in today's dynamic business environment, can organisations really afford to rely on subjective judgements of managers.

Here comes the HR analytics in picture. By taking into account data that are instinctively obvious – resumes, job descriptions, references, relevant experience and interviews – and some that may not be so obvious, mathematical algorithms can be used to answer questions about the suitability of the candidate for the vacant position. Organisations may use HR analytics to answer the following questions:

- Will the selected source of recruitment create the pool of potential candidates for screening?
- Does the candidate possess Knowledge, Skills and Attitude (KSAs) matches with job specification?
- Is the candidate interested in the job being offered to him/her?
- What is the probability of success of the candidate on the job position?
- How much time the candidate will require to be successful on the job?

TRAINING AND DEVELOPMENT

The training and development function identifies and fills the capability gaps which employment function was not able close. This function is considered to be the most crucial sub-part of HRM that requires quantitative data-based evaluation. Whenever HR personnel approaches management with intervention plans, they often face difficulty in explaining the impact of interventions on organisation's bottom line. Top management demands evidence that training departments are contributing positively to the bottom line. The most renowned model of evaluation of training programs, Kirkpatrick model, takes into account outcomes such as reaction, learning, behaviour and organisational results. Out of these outcomes only the last one 'organisation results' deals with quantitative data and all other outcomes still includes subjectivity.

HR analytics attempt to answer the following questions frequently raised by management on training and Human Resource Development department of the organisation:

- What interventions would have the greatest impact on employee effectiveness?
- What interventions would help a particular problem?
- What was the impact of a certain training intervention?
- Which of our training interventions have the greatest impact on the productivity?

REMUNERATION

Traditionally, employers decide on the remuneration at their organisation. They go through the process of job evaluation and ends up with certain ranges, place employees in those ranges, then appraise their performance and much more. But the critical area that has not receive due attention in this process is to stepping back and try to evaluate the remuneration program so implemented. In the 21st century, remuneration is just not based on the productivity of employees but also covers motivation, employee capabilities and retention (Levenson, 2012). Remuneration is nowadays believed to represent the potential of an employee rather than just being a figure that compensates for employees' services. The remuneration program is essentially an instrument in the hands of employer to reinforce employee behaviour. HR analytics assists managers in deciding the remuneration of employees based on various factors but also assess the effectiveness of the remuneration system. The following list of questions that could find their answers in HR analytics is not exhaustive:

- What should be the determinants of bonus?
- What should be the determinants of pay?
- Does the existing remuneration program affects employees satisfaction and morale?
- Does your remuneration program is better than that of your competitors?
- Is your remuneration program just and fair?
- Is your remuneration program attracting talent in the industry?

PERFORMANCE APPRAISAL

The traditional methods of performance appraisal such as ranking, field review, critical incidents etc. are all trait-oriented. Evaluation of employees is done on the basis of benchmarks of personal traits. On the other hand, there are modern methods such as Management by Objectives (MBO) and Behaviourally Anchored Rating Scales (BARS) which represents result- oriented appraisal. These methods are repeatedly criticised and scrutinised as they are being open to interpretation and opinion. The most analytic method by far for appraising performance is Robert and Kaplans's Balanced Scorecard. This strategic performance management system measures performance from four 'balanced' perspectives: *Financial Perspective, Customer Perspective, Internal Business Process and Learning and Innovation*. These perspectives provide responds to following questions:

- Does employees' performance results into economic consequences?
- What employee characteristics drive customer satisfaction?
- Are employees contributing to critical business processes?
- Do the employees have potential for better performance?

TALENT MANAGEMENT/SUCCESSION PLANNING

Performance appraisal is usually the first step of talent management as it segregates performers from non-performers. Next comes the future of employees in the organisation. Many organisations that have a formal system of talent recognition use assessment centers to suggest scenarios that determine success in the next role. In a world that is rapidly changing, is it worth betting on employees based on the assumptions about future roles? If someone is a poor performer in the current role but has very healthy relationship with his/her supervisor, then the employee may have elevated chances for being promoted and vice-versa. One can never be sure of what an employee can perform in various scenarios. Further, there are always the odds of other employees (not selected for higher roles) resorting to management's decision. HR analytics would present a better understanding on:

- Why someone is chosen for a future role while others are not?
- What are the benchmarks to be eligible for various promotions?
- What talent gaps are most critical to address?
- Is there a need for role shift for any employee?

SEPERATION

Gone are the days when employees worked for decades for the same corporation. Today's organisations have learned to live with employee churn. Attrition in large organisations is considered an asset loss. Its an all-level issue that organisations would like to understand and get ahead of. Separation of productive

employees characterizes an intense loss of human capital and severely blows the potential of future returns. Risk analysis on head count decline must be conducted with the same finical rigor as decisions on any other capital investment. Knowing the reasons behind attrition in an organisation can help organisations sustain and retain its pool of talented employees.

HR analytics provide answers on following separation related questions:

- a) Why is turnover so much high?
- b) What are the most important things organisations need to focus on to decrease regretted turnover?
- c) How to retain high-potential employees?
- d) Do organisations serve to HR needs?
- e) What constitutes employee loyalty?

III. ROADMAP OF HR ANALYTICS

This section discusses in detail the five key stages in the analytics maturity diagnostic instrument that can be used by organisations as a self-assessment device as well as a roadmap for their data analytics journey. The roadmap constructed is here is not of definite steps but a generalization of various steps of the process of HR analytics.

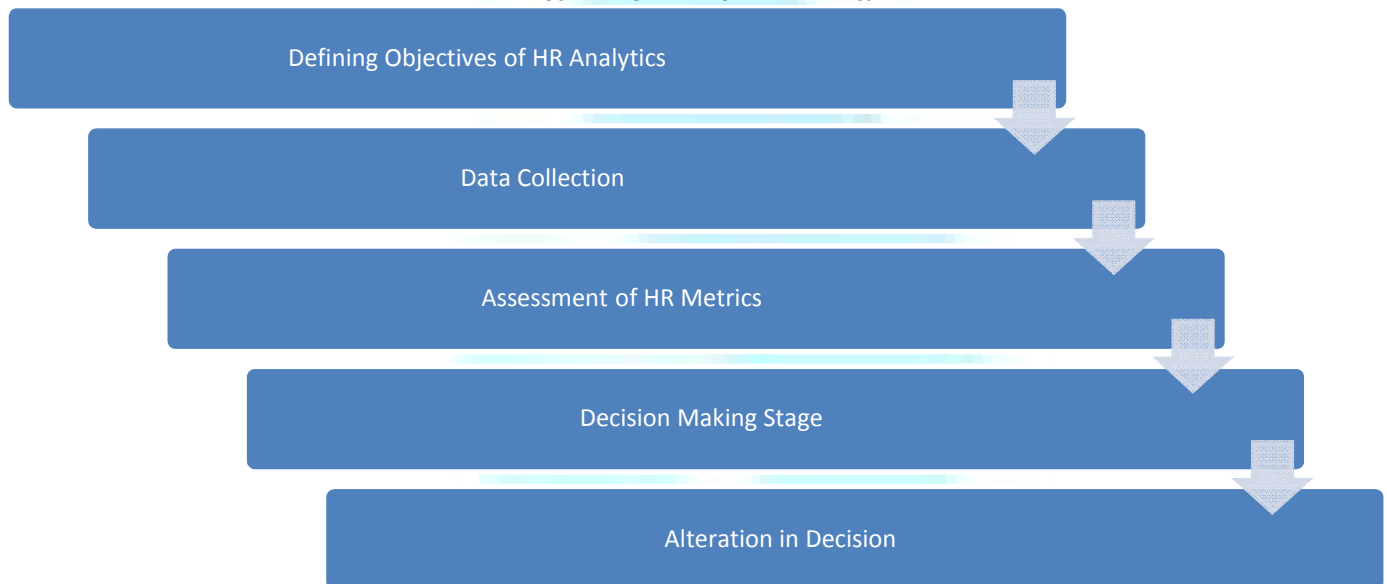
(a) DEFINING OBJECTIVES OF HR ANALYTICS

An organisation must first determine the top most critical objectives based on its mission and vision statement, on which to focus. For example, objectives may be higher productivity, lower turnover and highest customer satisfaction are commonly desired objectives—but this is not the exhaustive list. Then based on the stated objectives appropriate questions can be framed whose answers will be found in the last stage of this process. This stage provides a direction to the process of HR analytics; why HR analytics is being conducted?

(b) DATA COLLECTION

Once an organisation understands what key HR-related issues it needs to solve, it must spot the relevant data requirements and develop consistent methods for collecting that data across organisational units, systems and geographies. Automated systems, powerful HRIS and other data collection methods give organisations access to abundant amount of HR data. While this type of data-gathering technology is extensively used to make the transactional processes of HR more competent, it has been under-utilized in applying quantitative analysis to HR initiatives.

FIGURE 1: ROADMAP OF HR ANALYTICS



(c) ASSESSMENT OF HR METRICS

It is necessary to determine the HR metrics that an organisation will use for decision-making purposes. This step gets into the details of the actual analysis process, but several measurement characteristics of each objective measure should be assessed such as frequency of measure, level of measure and owners of data. Table 2 shows some of the HR metrics frequently used for the analysis purpose.

TABLE 2: SOME IMPORTANT HR METRICS

<p>Employment</p> <ul style="list-style-type: none"> • External Hire Rate • Net Hire Ratio • Rehire Rate • Referral Rate • Average Interviews per Hire 	<p>Training and Development</p> <ul style="list-style-type: none"> • Penetration Rate • Staff Ratio • Expense Rate • Average Class Size • E-Learning Abandonment Rate • Chanel Delivery Mix 	<p>Remuneration</p> <ul style="list-style-type: none"> • Average Hourly Rate • Bonus Actual to Potential Rate • Compensation Satisfaction Index • Overtime Rate • Bonus Eligibility Rate
<p>Performance Appraisal</p> <ul style="list-style-type: none"> • Average Rating • Peer Review Rate • Self-Appraisal Rate • Performance-based Pay Differential • Upward Review Rate 	<p>Talent Management</p> <ul style="list-style-type: none"> • Manager Instability Rate • Manager Quality Index • Successor Pool Coverage • Successor Pool Growth Rate 	<p>Separation</p> <ul style="list-style-type: none"> • Involuntary Termination Rate • Voluntary Termination Rate • Average Termination Value

(d) DECISION MAKING STAGE

This stage of the process requires advanced statistical knowledge to link the data. Using structural equations modelling affords the ability to determine. With a strong analytic establishment, HR departments and their personnel can more effectively manage HR data and establish greater business background for human capital decisions. The ability to drill down into HR metrics can help expose a “root cause” and can help guide towards possible solutions. The final result generated from the data analysis step is a list of precedence that has data and analysis behind them to ensure an impact on the organisation. This helps HR professionals not only justify their decisions by thorough analysis, but also add more effectively to the formation of organisational strategy.

(e) ALTERATION IN DECISION

There always exists a chance (though a minor one) of a decision going wrong because HR analytics is based on data which is often approximated. Like other organisational decisions, managers should make slight adjustments to plan along the way based on continuous measurement results. However, it is not sensible to make frequent, extensive changes to the strategic focus of the decisions. Pick two to three critical areas and build action plans around those critical areas. Measure advancement against those plans two to three more times, and then re-calculate the dataset relations and re-prioritize.

IV. FUTURE OF HR ANALYTICS

HR analytics is an evidence-based system for improving individual and organisational performance by making better decisions on the HR side of the organisation. While HR analytics are reactive in nature--- management focuses on historic data to arrive at present day decisions, Predictive HR analytics is proactive in the sense that it does the work of projecting, predicting and forecasting. Conventional HR metrics that are frequently used in HR analytics by organisations today such as penetration rate, rehire rate, etc. However, these are only basic metrics that answer simple questions and at most show changes in organisational trends. These metrics can only answer questions of historical nature, while this is valuable it tender narrow predictive power into the future. As a result, organisations remain in a reactive cycle rather than using analytics as a proactive and strategic tool to make fact-based decision. Predictive analytics is a rising territory of HR analytics.

Predictive HR analytics states the future in terms of probabilities and while no application can predict the future with absolute assurance, its proponents argue that it helps management make decisions that minimize the risk and increase return on investment. Predictive HR analytics is becoming more and more tempting, permitting HR managers to be more strategic in predicting whether they will have enough resources next period, but also, have the right skills on their team four years down the road. Being an evolving phenomenon predictive HR analytics has much scope for future research purposes.

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