



Review Article

ACCLIMATIZING HUMAN RESOURCE (HR) ANALYTICS IN CORPORATE- A CRITICAL REVIEW

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ABSTRACT

HR analytics is the art and science of connecting data to discover and share insights about the workforce that will lead to better business decisions. HR Analytics enables organizations to use their workforce data to make wise decisions about their employees to improve daily operational performance and align decision making with business strategy. By attracting top talent, forecasting future staffing needs and improving employee satisfaction, HR Analytics tools can empower the organization to amalgamate HR metrics with strategic business goals from end to end.

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INTRODUCTION

In the recent period, the peak development of Information Technology (IT) and its current trends influences the transformation from virtually to reality. Normally techies perform set of operations on a particular domain and gather some data from the process. This extracted data serves as an input which is processed and filtered with mathematical applications to give a desired design known as Business Analytics. Business Analytics is defined as, “the extensive use of data, statistical and quantitative analysis, explanatory and predictive models and fact-based management to drive decisions and actions” (T.H. Davenport and J.G. Harris.2007). Most of the organizations today support all their business process with the help of analytics which can be applied in various modules such as finance, sales, human resources, marketing and supply chain etc. Compared to these functions, the Human Resources function (HR) has been marked as a laggard and has been regarded as rather late entrant to using analytics (J. Harris, E. Craig and D. Light, 2011).

Analytics operation in the area of Human Resources is known as HR Analytics (HRA) or Talent Analytics. It refers to the collection of data from manpower resources of an organization to analyze their individual performance, through which they minimize turnover rates thereby improving employee retention.

HRA is defined as “the systematic identification and quantification of the people drivers of business outcomes, with the purpose to make better decisions” (van den Heuvel & Bondarouk, 2016). Business analytics and data mining integrate the activities of human resource department in terms of employee efficiency, decision making and organizational improvement which synchronizes relevant, accurate and timely data.

HR Analytics includes the collection of workforce data in relation to employee ratings, scorecard, target achievements which is fed in to advanced computer models. Using sophisticated algorithms, flow charts and critical decisions HR lead can make critical decision regarding training to reduce attrition rates. The key attribute of HR Analytics is the tracking of employee behavior and outcome by the professionals. Keen knowledge in firm’s product line, market share, revenue drivers, gross margins per capita and earnings per share performance is essential to perform sequential analysis in the area of cost cutting and decision making. Current trends in HR analytics which consists of operational and strategic data can be used to solve the future issues in human resource management. It has become a vital tool for success due to its effectiveness and efficiency towards leveraging current data to anticipate future Return on Investment (ROI) with reference to competitive advantage. E. Lawler and J. W Boudreau. (2009) showed that use of metrics and analytics by HR increased the scope of HR being seen as a strategic partner in the organization. Organizations such as Google, Best Buy and Sysco have been able to enhance their competitive advantage through their use of HR analytics (T. H. Davenport, J. Harris and J. Shapiro, 2010). Researchers have

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also observed that the use of analytics in order to understand how HR practices and policies impact organizational performance is a powerful way for HR functions to add value to their organization (E. E. Lawler III, A. Levenson and J. W. Boudreau, 2004)

The rise in the use of analytics has been caused by three main factors

1. Improvements in technology and software which increases the transformation regarding digitization of the departments such as sales, marketing, finance and logistics etc.
2. Proof for business decisions based on measurable outcomes has to be maintained compulsorily rather than depending on instinct documents and subjective judgment.
3. Analysis and design of data rather than storing is essential in the areas of demographic data, performance data, background check, and compensation and training.

HR Analytics solutions can induce

- Prioritizing target applicants for a specific position based on excellent qualification.
- Examining different methods to fill out best positions and forecasting work requirements.
- Bridging the gap between strategic and financial goals with the criteria of improved business performance.
- Identification of factors that leads to greater employee satisfaction and organizational productivity.
- To track the movement of high value employees regarding attrition and discovering the reason for leaving the organization.
- To establish and develop the initiatives for effective training and career development activities.

HR analytics technology facilitates the process of extracting raw data, synchronizing the time needed to perform highly complex assessments that support hypothesis-driven decisions. With real-time access to critical metrics and trends, HR managers can quickly identify and delete junks, reward revenue-drivers, and operate in a manner that directly grows the company's bottom line.

Purpose

The main aim of this research article is to present the basic concepts of HR Analytics to understand and plan steps in a structured way to ensure the effectiveness of HR functions in the transforming era.

METHOD AND MATERIALS

Data used for performing this research is secondary in nature which has been collected from the earlier research studies.

RESULTS

However it has been very clear from the previous researches that HR Analytics will surely improve the success of the HR functions by replacing manual processes in the organizations. Workforce analytics is an advanced set of data analysis tools and metrics for comprehensive workforce performance measurement and improvement. It analyzes recruitment, staffing, training and development, personnel, and

compensation and benefits, as well as standard ratios that consist of time to fill, cost per hire, accession rate, retention rate, add rate, replacement rate, time to start and offer acceptance rate (Gartner, 2012). HR Analytics aims in linking employee data with different types of business data to formulate fruitful strategies so as to achieve the company goals such as maximized profits and lowered production costs. Progressively, HR analytics is considered as a critical tool to shape the organizations' future corporate strategies.

HR managers who successfully perform the HR Analytics operations uses the same for strategic decision making and delivers benefits such as reduced employee attrition rates, anticipated superior performance, compensation efficiency and enhanced employee morale. HR analytic helps the human resources in tracking projects, absenteeism, monitoring and managing schedule assignment, and tracking performance of each employee. (Bartels S & Jay Richey J, 2008). Google uses HR analytics to forecast future manpower needs, to identify the root causes of weak diversity recruiting, to predict which candidates have the highest probability of succeeding, and to evaluate promotional opportunities for women engineers. CEO today have started identifying the importance of HR related data in effectively managing the HR processes such as man power planning, recruitment, training & development, performance appraisal, compensation management and employee turnover, etc. Harris, Craig and Light, (2010) categorized the following five different human resource analytical applications:

1. Identifying and managing critical talent (e.g., high performers, high potentials, pivotal workers)
2. Managing critical workforce segments (e.g., underperforming units are identified and helped to improve)
3. Predict employee preferences and behaviors to tailor HR practices for attracting and retaining talent workforce.
4. Forecast business requirements and staffing requirements (e.g., workforce skills needed in different business scenarios)
5. Adapt rapidly and scale recruiting supply channels and targets to meet changing business conditions, objectives, and competitive threats.

Recruitment and Talent Acquisition

HR analytics influences the effectiveness of an organizations' talent acquisition function. It has been observed that effective data collection can be correlated with business outcomes such as increased revenue to create strategic insights and drive action. The sourcing data would certainly help the recruiters to ensure the right candidate outreach and their engagement. The adoption of people analytics enables the talent acquisition function to become more effective which can initiate the triggering in the screening function. By effectively bridging pre-hiring and post-hiring performance data, the recruitment and talent acquisition departments can accurately measure the effectiveness of recruitment in the organizations. By having the data regarding the candidates' job qualifications and their pre-hiring requisites, the prospective candidates could be shortlisted and selected for the appropriate positions in the organizations. The benefits of HR analytics in recruitment reduce time-to-hire by replacing manual processes and increased quality of hiring process. Also it can help the

professionals to identify the newly hired talented employees who might be the key performers for the firms. This can further help in deciding the work force for the fast-track programs.

Performance management

Performance Appraisal is a procedure to evaluate how individual personnel are performing and how they can improve their performance and contribute to overall organizational performance (Grubb, 2007). Dessler (2005) define performance appraisal as “comparing the employee’s present and past performance to his/her performance standards”(Nadeem,2013).HR analytics can be used to track, forecast, and reconstruct employee performance based on appraisal data, employee turnover. It is a fact that top performing employees mostly contribute disproportionately to a company’s ethics. So it is very clear that they should be paid proportionately more in order to keep them motivated and retained in their respective organizations. In this regard, HR Analytics enable the HR departments to identify and automatically compensate best performing employees. Analytics also helps to identify thenon performing employees and departments which help the HR department to create interventions, provide training, and place the right team members to increase performance. The ability to capture data and analyzing them has helped the organizations to both increase the revenues by better understanding and precisely targeting customers and cutting costs through the improved business process. HR managers are now able to analyze mountains of structured and unstructured data to answer the critical questions regarding workforce productivity, impact of training programs on performance, predictors of attrition and also able to identify the potential leaders of the organization (Nerney C, 2014).

Workforce planning

HR Analytics helps the organizations to measure the average attrition rates across departments to recruit and hire for backlogs. Also it can correlate the quality of workforce with company’s revenue growth and market share to proactively recruit and hire for future prospects. HR Analytics is the ultimate tool for formulating a strategic workforce planning. HR Analytics today is targeting critical workforce metric that link workforce strategy to business results that finally provides HR a seat at the table and the integrity to make business and workforce strategy decisions by identifying cost savings opportunities, improving the retention of key talent and increasing workforce productivity and efficiency (Higgins J., Cooperstein G and Peterson M, (2011) [3]. While over half of corporate survey respondents reported that they used HR analytics for company operational reporting, only 30% were using HR analytics for decision making, 10% were using it to map human capital talent to business objectives, and only 4% were using predictive analytics for future workforce planning (Deloitte, 2013).

HR analytics also helps in performing the succession planning by predicting the success of candidate in fulfilling new positions and identifying the candidates whose management style most closely fits previously successful organization.

Training & development

Currently a rapid change in the technology, tough domestic and global competition, nature of jobs etc. drives the

organizations to focus their needs for training and development. Training is the planned and systematic modification of behavior through learning events, activities and programs which results in the participants achieving the levels of knowledge, skills, competencies and abilities to carry out their work effectively (Garavan, 1997 & Berge *et al.* 2002). Training is a learning activity directed towards the acquisition of specific knowledge and skills for the purpose of an occupation or task (Cole, 2002). After analysis of the performance of the employees and identification ofthe training needs, HR management can improve the productivity of the employees. Organization needs to develop better training and development plans to help the organization to boost their employees’ productivity rates. Moreover, it gives the employees a chance to perform better in the future to increase their productivity which may result in increased revenues. The HR analytics can help the HRM professionals to identify the employees who need training and development opportunities for enhancing their performance in the respective areas in the organization. Training effectiveness may also be monitored and controlled based on metrics such as abandonment rate, training hours and expenses per FTE along with actual participant feedback.

Compensation Management

Compensation management is an integral part of human resource management approach to productivity improvement in the organization. It deals with the design, implementation and maintenance of compensation system that are general to the improvement of organizational, team and individual’s performance (Armstrong, 2005). All rewards provided to employees in return for their service, the overall purposes of which are to attract, retain and motivate employees. As compensation is comprised of both fixed and variables components as well as employees benefits and services, an optimum combination of these elements is ideal to effectively influence position employees’ performance (Mondy, 2010).HR analytics helps individual departments to perform pay scale analysis by comparing the salary based on dimensions like paygrade and forecasted skill value, through whichvisualizing the disparities in salary provided to the employees. Compensation optimization can also be ensured using HR analytics by identifying optimal balance point between compensation package and labor costs. HR analytics can help the business to quickly analyze relationship between employee compensation, employee turnover, retention, recruitment, and performance in all levels within an organization. This would support the design of more accurate compensation levels which attract new hires and reward top performers.

Employee Turnover and Retention

HR analytics enables HR teams to predict the risk of employee turnover by function, location and position. Also HR Analytics can be used as a method of modeling which helps to reduce the losses. In order to reduce employee turnover, HR needs to become more data-driven, looking past simple descriptive analytics and move towards more exploratory analytics and predictive analytics.

Employee compensation represents about 80% of a company’s overall budget and hence high employee attrition rates could represent a major proportion which becomes a major problem for HR to solve. Data can identify the turnover intentions of the employees and recommend the prospective retention

interventions for them such as promotions, developmental opportunities, salary hikes and perks. Research featured in the Harvard Business Review found that employees are more likely to quit their jobs around their yearly work anniversary. Hence proactive HR departments can time retention interventions before that time. The study also found that high-tech companies were able to find the reasons for the turnover of top engineer and design a compensation and work environments to make the people to stay in the firms. Google uses HR analytics to determine the eight characteristics of good leaders. It also uses HR analytics to design the most productive work environments for employees, and to predict which employees are most likely to leave the company (Sullivan, 2013).

Data could be collected and predictive analytics can be used to find links between employee conditions and retention within different industries, and for different types of employees within them. By comparing retention rates with various factors such as, pay, career development, etc, the organizations can formulate the relevant strategies to retain talented workforce. HR analytics can foster better anticipation of employee turnover and provide incentives to limit attrition rates. By identifying top performers who are about to leave the organization in the nick of time, or sweetening the compensation pot for Baby Boomers considering early retirement, an HR analytics application, effectively deployed, can save a company millions of dollars in lost talent. Factors such as location, pay scale and personality type can all be fed into an HR analytics system to preserve the best people in a talent pool.

HR analytics helps organizations to determine employee attrition by uncovering the factors which lead to same by segment as well as on an individual level and realizing the employee value through cluster analysis i.e. value of new hire most similar to employee likely to attrite. Analytics may also be used to enhance employee engagement and minimize turnover.

DISCUSSION

The brief historical review clearly reveals that HR Analytics has intellectual roots in the field of HR from past several decades. HR field encompasses many rubrics and metrics from history and along with the recent technological advances such as networking and software lead to the explosion and availability of Big Data that have paved the way for the development and popularization of HR analytics. Some of the ideas and practices associated with HR analytics are not new, which means that HR analytics, at least some extent, can be considered a repackaging and relabeling of existing HRM practices using new rhetoric (cf. Legge, 2005). Robinson (2012) stated that workforce Analytics is a combination of methodology and software that applies mathematical models to worker-related data, allowing leaders to optimize Human Resource Management. Henson (2002) explained extraction from a central database of all relevant external and internal company data, workforce analytics facilitates firms to model, simulate, report, compare and leverage the most important metrics of HR and the firm.

The types of HR analytics include Descriptive, Diagnostic, Predictive and Prescriptive. Descriptive analytics describes what already happened, or what's currently happening. Diagnostic analytics present the *causes* of the

events revealed by the descriptive analytics. Diagnostics reveal the underlying cause of the events presented by descriptive data. Predictive analytics focus on what might happen in the future, based on the details of past events. Predictive data is gained through data modeling, machine learning and artificial intelligence. Prescriptive analytics suggest decision options and actions you can (should) take, based on the predictions. And unlike purely human decisions that are often subject to illogical biases, the decisions recommended by prescriptive analytics are based on data, and therefore, more reliable.

Key HR analytics used by corporate

The key HR analytics used by the corporate currently includes Capability analytics, Competency acquisition analytics, Capacity analytics, Employee churn analytics, corporate culture analytics, Recruitment channel analytics and Employee performance analytics which help the managers to make decisions in the key HR functions. Generally most HR analytical solutions focus on providing the following solutions:

- Prioritize and target applicants who are most qualified for a specific position.
- Forecast workforce requirements and determine how to best fill open positions.
- Link workforce utilization to strategic and financial goals for improved business performance.
- Identify the factors that lead to greater employee satisfaction and productivity.
- Discover the underlying reasons for employee attrition and identify high-value employees at risk of leaving.
- Establish effective training and career development initiatives.

HR analytics builds competitive gain by producing actionable business intelligence on the "people side" of the business. HR analytics is assisting the organizations to renovate the Human resources from being tactical support function into a strategic partner (Smith. T, 2013)

HR analytics also measure HR effectiveness, helps processes for addressing gaps in labor and skills, derive metrics for benchmark interpretation and trends, provide compensation and retention planning tools for proactive analysis and support talent development.

Angrave and colleagues (2016) argue that HR analytics should facilitate experimentation to identify the causes of performance improvement and quantify the return on investment that such efforts may provide. This involves complex projects that begin with question formulation, specify a logical research design, organize data in a meaningful way, and use appropriate statistical modeling, including a variety of techniques requiring different levels of mathematical complexity. Success Factors (2012) explored that what-if scenario and historical trends can be presented in a graphical way by integrating and comparing raw workforce data through workforce analytics. It is easy for all the stakeholders in the organization to visualize the impact of the movement of talent on cost hiring decisions, cost models, career-path initiatives, risk management and succession planning through modeling capabilities of workforce analytics. Workforce Analytics can identify and addresses the loopholes in the firm's talent mix and the solution to overcome for better business results. Workforce analytics can identify and address the loopholes in

the firm's talent mix and the solution to overcome for better business results. As per a report of IBM Global Business Services (2009), workforce analytics has a vital role in HR migration from a more administrative to a more strategic area. Workforce analytics also facilitates the owners of various workforce segments as line managers to make more informed and fact-based decisions about the performance and compositions of their employees. Integration and analysis of data from multiple sources requires a consistent analytics platform. Though many firms have purchased best-of-breed point solutions which highlights metric within a specific human capital area, they do not provide a full picture of overall performance. This requires a single platform from which HR professionals and top management can fetch and interpret data to make fact-based performance and strategic decisions. Robinson (2012) explored that potential benefits of Workforce Analytics includes shorten recruiting cycle, avoidance of costly mistakes to largest P&L items, Improved retentions and Better training ROI.

Drawbacks of HR Analytics

According Fitz-enz and Mattox (2014), approximately 75% of HR departments do not have usable base metrics. So for many organizations, there is a big leap from their current state to the appropriate use of analytics. Similarly, Angrave *et al.*, (2016) recently noted that it is unclear whether HR has the ability to effectively utilize trends in big data and analytics to obtain organizational benefits. Most individuals in HR functions lack the skills, knowledge, and insight to ask the right questions of the HR data they have at their disposal (Chartered Institute of Personnel and Development [CIPD], 2013). Even if the skills and ability to conduct these analyses are present, still it is a challenge to gather the data necessary to turn information into results (Fitz-enz & Mattox, 2014). The non-central position of HR within many organizational hierarchies and HR's frequent inability to obtain support for analytical efforts (Angrave *et al.*, 2016). And while analytics is increasingly described as a "must have" capability for the HR profession, the ability for analytics to be applied in a meaningful way has been hindered, not helped, by the growing HR analytics industry, which is often built upon products and services that fail to meet the needs of HR professionals and organizations (CIPD, 2013). Despite these drawbacks, one would imagine that the prominently broadcasted HR crisis of a widespread talent shortage would warrant experimenting with the use of HR analytics. The problem here is that this crisis may be overstated, or applied broadly where it only affects a small number of firms with specific, high-tech recruiting needs. And even within these firms that actually have a real need for radical changes to their approach to talent management, and within firms that have made significant investments in HR analytics, most efforts have not progressed beyond descriptive analysis.

CONCLUSION

The hasty changes in the current business environment cause intense competition among organizations. Hence, in order to have command over the competitors, organizations must establish HR analytics for yielding accurate and real time information. According to the HR experts, HR Analytics will grow and play a key role in the critical functions of Human Resource Management functions such as Talent acquisition, organizational development and operations. HR Analytics can

provide a better understanding of factors influencing employee performance and spot out opportunities to improve employee performance and to retain the best. As the current business world today is more specific in ensuring optimistic utilization of human resources, more attention must be paid on this. HR Analytics is not only driving best HR decisions with accurate evidence, but also provoking organizations to maintain adequate quality data for justifying ROI in HR Investments.

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