Creating Value of Human Resource Through Analytics

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ABSTRACT: Understanding HR's contributions in driving organizational performance is nowadays essential. HR professionals need to face the new realities and adopt an integrated management model in order to provide the best actions regarding the management of human capital. An organization needs and can quantify the HR's overall strategic impact by finding the proper ways for measuring its impact on the success drivers. Today, the business environment is more dynamic than ever. In this often volatile environment, Human capital is arguably the most sustainable source of completive differentiation and value creation. Clearly the HR organization is more central than ever in terms of helping business tap this human capital potential and align it with business strategy; however for HR organization will need to utilize tools and resources that enable it to get a better understanding and insight of human resource capital, opportunities and challenges. It calls for the decision making approach based on facts and numbers rather than intuitions and guess work in this context the application of Analytics in the realm is becoming increasingly important.

Analytics is the discipline of gaining meaningful insight through interpretation of Data that helps in better decision making. It is achieved through utilization of right kind of competency (both statistical as well as functional) the Research shows that there four levels of Analytics that differ from each other in terms of their ability to create business impact and the associated sophistication of underlying solution- reporting ,descriptive, predictive and prescriptive Analytics. The scope and approach to HR Analytics should be determined based on contextual factors such as objectives, internal readiness and investment appetite and target timeframe to achieve the objectives.

Keywords: HR Analytics, Decision making, Human Resource value creating, Manpower planning

CONCEPT OF HR ANALYTICS

Employee database that is accurate, consistent, integrated, accessible and relevant is the important to provide ''one truth'' for HR information, such data allows companies to track the skills and competencies they have as a whole as well as the knowledge, skills, abilities and performance of individuals. Companies at the forefront of HR analytics are analyzing this information to identify characteristics of successful employees and then evaluate new job applications in this light. The Key segments of critical talent management in companies can use analytics to identify the key employees. Statistical analysis of good data yields useful segmentation – of employees, workforces, talent pools, or key skills. For example, analytics can be used to systematically and rigorously identify critical talent (such as key recruiting targets, high-potential employees and top performers). Companies make a whole range of investments aimed at finding, keeping, engaging and training the people who work for them. An analytical approach to these investments can help organizations discover which ones generate the biggest performance payoffs – and to use that knowledge to focus their talent investments, Predictive action: customizing the employee-value proposition. Why do employees choose to stay with a company? One way to answer that question is by using analytics to calculate what employees value most, and by using that data to create a model that will boost retention rates. This application of analytics leads to predictive action, a rung on the ladder in which companies anticipate employees' preferences and future behaviours and tailor HR practices to help them hold on to their valuable talent.

INTRODUCTION

HR Analytics is a general term which simply means applying various advanced analytic techniques to data to answer questions or solve problems. It is not a technology in and of itself, but rather, a group of tools that are used in combination with one another to gain information, analyze that information, and predict outcomes of the problem solutions. Data integration and data mining are the basis for advanced analytics. The more information that is gathered and integrated allows for more pattern recognition and relationship identification. Statistical analysis is another very important component to see trends and patterns in the data. Some other techniques used to manipulate the data is fuzzy logic, to deal with incomplete or ambiguous data, and neural networks to anticipate decisions and assist in predictive analytics which helps predict likely outcomes (Wu et al., 2006).

In today's rapidly moving, dynamic, uncertain and highly competitive global Human resource development is to be planned in a systematic manner to provide

opportunities to the employees of the organization to learn new skills necessary for the present and future job requirements therefore the Focus on HR analytics has increased steadily over the past decade as evidenced by the continuously growing demand of HR analytics in the management decision making process. HR analytics is reaching more organizations and extends to a wider range of users, from executives and line of business managers to analysts and other knowledge workers, within organizations. In an environment of increasingly faster growing data volumes where operating on intuition is no longer an option, business analytics provide the means to both optimize the organization internally and at the same time maintain flexibility to face unexpected external forces.

One of the founders of the analytics movement has said: "Unquestionably, analytics is going to give HR a major makeover. Analytics is the engine of business intelligence and BI is a prerequisite for sustainable performance. Although analytics have been in use in production, marketing and finance for many years, HR has successfully avoided it. That evasive action will block HR from ever being a strategic partner in decision making. The good news is that there are already a number of companies doing fine work here. The days of anecdotal reporting are over and hard evidence is the new language."

Human resource analytics (HR analytics) is an area in the field of analytics that refers to applying analytic processes to the human resource department of an organization in the hope of improving employee performance and therefore getting a better return on investment. HR analytics does not just deal with gathering data on employee efficiency. Instead, it aims to provide insight into each process by gathering data and then using it to make relevant decisions about how to improve the process of manpower management in the organization.

DEFINITION OF HR ANALYTICS

Using a variety of HR and organizational data for the benefit of strategic decision-making by organizing, analyzing, interpreting and presenting that data in a meaningful way and giving it predictive and prescriptive power through the application of statistical tools and techniques.

The concept and tool called HR Analytics (Fitz-Enz, 2010). HR Analytics refer to the fusion of quantitative and qualitative data and information so as to have an insight and decision making support to the management of people in an organization (Handa & Garima, 2014

We define "HR analysts" as workers who use statistics, rigorous quantitative or qualitative
Analysis and information modelling techniques to shape make business decisions –A broad range of activity.

HR Analytics comprises tools and applications for tracking, storing, analyzing, and modelling data in support of decision-making processes. This HR Analytics includes both application development tools and packaged with analytic applications. The tools segments of the market include data warehouse generation, data warehouse management, business intelligence, technical data analysis, and spatial information management tools. By implementing HR Analytics, organizations are able to leverage their existing investment in transactional applications, while avoiding costly mistakes due to "gut feel" decisions made without solid information from the available data.

ANALYTICS IS DIVIDED INTO THREE LEVELS

1. Descriptive Analytics, which uses data aggregation and data mining techniques to provide insight into the past and answer: "What has happened?"
2. Predictive Analytics, which uses statistical models and forecasts techniques to understand the future and answer: "What could happen?"
3. Prescriptive Analytics, which uses optimization and simulation algorithms to advice on possible outcomes and answer: "What should we do?"

REVIEW OF LITERATURE

HR Analytics Evolution

Many articles have been written about HR Analytics, It is now century that has passed in exploring and systematically understanding the workforce management. In 1911, Taylor initially attempted a scientific method to develop measures to capture the effectiveness of the workforce of organizations. Munsterberg wrote a book relating to industrial and organizational psychology in 1913. He wrote in his book on fitting of right kind of workforce for a job, procuring the best performance for a job and finding the best possible outcome. Methods of quantitative analysis and its use in decision making were developed during the build-up of both men and materiel occasioned by World War II. Further study and development occurred during the great post-war industrial expansion in the United States that continued into the 1970s. In fact, many of the most common HR metrics in existence today were first considered and developed during this period (e.g., Hawk, 1967).

Many of the HR metrics most frequently used in organizations can be traced to the pioneering work of Dr. Jac Fitz-enz and the early benchmarking work he conducted through the Saratoga Institute. In 1984, Fitz-enz published How to Measure Human Resources Management Bailey (1993) stated that in case of programmed or structured jobs, contribution of even a highly skilled and talented workforce will be limited .Because, in these cases, employees knows their job very clearly .So there is

no scope to user their inner ability to design new and better way of performing the job. HR practices can influence firm performance through provisions of structures like Quality circles, job rotation and cross functional structures. As per his study, maintaining efficient operations and competitive advantages require motivation of the workforce to operate from remote places, development of measures to protect integrity of data and protection of customer information to check identity theft. Sukumadas and Sawhney (2004) developed and empirically tested a theoretical model of the impact of many workforce management practices on workforce agility. The paper suggests managers to adopt employee involvement practices as a set of tools to improve agility of the workforce. As per the Aberdeen Research (June 2012), workforce management is a big part of the core HR portfolio which includes time and attendance, scheduling and absent management. In this field of practice where self-service tools help individuals to be more involved with their experience and facilitate managers in taking better decisions. In the current context, workforce decisions should be supported by workforce data and analytics instead of fully depending on gut feelings and instincts. Harvey (2012) stated that the global economic crisis has brought sudden interest in the area of Workforce analytics. During the initial application of Workforce analytics, departments were ill prepared for the sudden need of the detailed analysis and reporting on workforce costs and related activities. As per IBM Global Services Report (2009), the main issue is the way in which organizations of all sizes are taking decisions of their workforce during economic crises. Many firms have only a partial understanding of the needs of their current and future workforce. They lack the insights to identify the top talents and retaining them. So they are unable to differentiate their value in the market. Ringo (2012) explained that the organizations that use workforce analytics have the most engaged workforce and they thrive in difficult conditions. Rouse (2012) stated that workforce analytics is a combination of methodology and software that applies statistical models to worker related data, allowing enterprise leaders to optimize human resource management. It is possible to make general and specific hiring decisions, identify the necessity for new positions, analyze and predict current and future technological needs and improve recruiting methods with the use of workforce analytics.

Managing the Human resources is challenging for every organization. To effectively use the latent competencies and skills of employees has always been the ultimate task for HR managers. Measuring its attributes and performance is the crucial part of the HR department. These ultimate tasks can now be solved with the help of new IT based technology like HR or

Workforce Analytics, which helps to transform the raw data into insightful and quantifiable decisions. With the help of HR analytics various workforce planning can be made in a more strategic approach. This helps the organization to have an upper hand over its competitors, as human resources have always been the vital aspect of every organization. Workforce Analytics is can be defined as evidence based approach that contains the elements of business intelligence, tools and methods ranging from simple reporting of HR metrics to the predictive model. The purpose of HR analytics is to enable the organizations to make better strategic decisions on the people side of the business. HR analytics can also be defined as the analytics which helps in the data constructing a storyline. It is mining the primary raw data for useful information ultimately relating the storyline to overall business goal. HR analytics processes the raw data and then tries to point out the various troubled metrics of HR and highlights the critical area to work upon which helps in making important strategic decisions for the top management.

Workforce Analytics is the ultimate tool for making 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). Organizations those are capable of leveraging in data driven decision making for the workforce not only outperform their contenders, but also profit higher value to shareholders and be in a better placed to meet workforce and business demands for the future. Google has reached an extraordinary success in the marketplace by focusing on strategic focus on people management (Sullivan J, 2013). In the article "how Google is using people analytics to completely reinvent HR" explains how Google has reinvent their focus to people management which has in turn help them to become on spot of the list of top ten successful companies. It also explains how by re aligning their HR strategy Google has changed its face of productivity.

The human element can be quantified and understood as the essence of workforce analytics. Gartner (2012) explored workforce analytics as 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. Kiron et al. (2011) stated in MITS loan management review the concept of analytics as the use of data and related insights developed through statistical, contextual, quantitative, predictive, cognitive and other models to drive fact-based planning, decisions, execution, management, measurement and learning. Analytics may be descriptive, predictive or prescriptive. Robinson (2012) stated that HR Analytics is a

combination of methodology and software that applies mathematical models to worker-related data, allowing leaders to optimize Human Resource Management. Lesser and Hoffman (2012) explored that analytics does not have to be a whip used to increase the stroke count associated with extracting more from individuals. Rather, it can provide the opportunity to build a more effective, empowered and engaged workforce that increased the value of the larger organization. As per SAS (2007) report ,HR departments are in demand to shift from description of past events and reporting towards predicting future events .Predictive modelling is the latest IT advances.

It is important to recognize that many organizations use metrics to measure or audit their HR programs and activities. Historically, the use of such audit metrics to measure the effectiveness of HR was identified by Cascio (1987) and Fitz-enz and Davidson (2002). The Society for Human Resource Management has identified a number of metrics that organizations can use to measure their HR effectiveness (SHRM, 2010)

OBJECTIVES OF THE STUDY

1. To give evidence-based advice on how to drive the Business Decisions from the data available using HR Analytics in the organizations.
2. To transforming data into valuable information that provide insight and foresight of the organization manpower planning.
3. To examine the changing role in managerial skills due to adoption of HR Analytics in the current organizations.

RESEARCH METHODOLOGY

Data is collected through secondary source that is from scholarly articles, books, internet and white papers.

HR ANALYTICS PROCESS

HR Analytics for HR Decision making

1. Research Agenda
   i. Decide what to use either Practical Analytics or Academic Analytics
   ii. What to discover and test?
   iii. Determine the stakeholders requirements
   iv. 2Identify critical questions
2. Identity the source of the data (Descriptive)
   i. What Data to be collected primary or secondary Data and the reliability of the Data?
   ii. The size of sample Data that is required?
   iii. What Methodology required to be used to collect the Data?
   iv. What Data to be collected internal or external Data?
3. Collection of Data
4. Transforming the Data into Information (predictive) Organize, Analyze and Interpret
   Factors to consider when transforming the Data into information
   i. Technology to be adopted
   ii. Designation of employees to be recruited operational, managerial or strategic decisions.
   iii. Work experience and duration of each assignment.
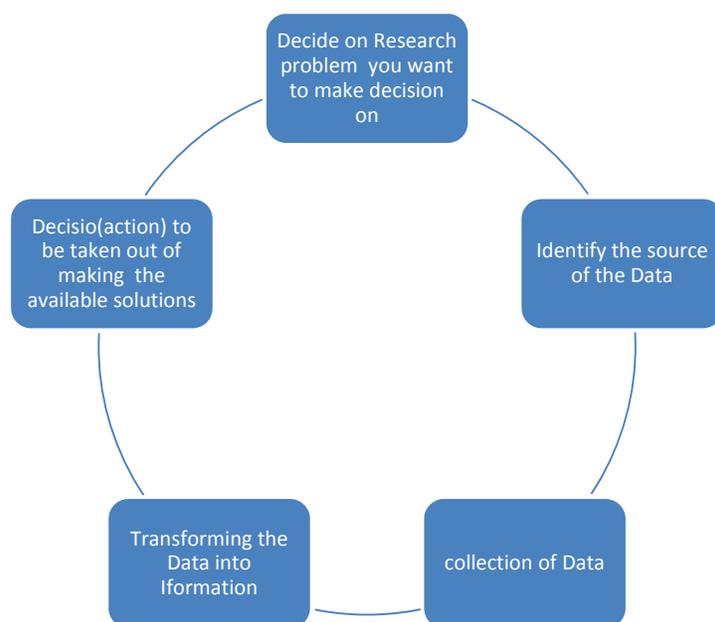
iv. Salary quotations from the prospective employees.
v. Aspirations of the employees.
5. Decision making (action) to be taken out of solutions available (prescriptive)
    A. Types of Decisions to made based on,
        i. Structured Decision
        ii. Semi structured Decision
        iii. Unstructured Decision
    B. Predictive Analytics for the Decision taken.

NEED FOR HR ANALYTICS IN THE ORGANIZATION

There is a dawning awareness that data and information, as a commodity in and of itself, has little value to an organization unless it is transformed into meaningful intelligence. In our age of information and speed, the sheer volume of data that organizations can and do amass is overwhelming. Amidst the volume, data is often fragmented, conflicting, incomplete and, in some cases, irrelevant. What is needed is the type of alchemy that transforms data and information into intelligence. Businesses in all industries require real-time intelligence more than ever to enable strategy creation, decision-making, execution and organizational learning. In the context of human capital management, HR intelligence, as derived from people research and analytics, is a fast emerging mandate for organizations seeking strategic competitive advantage. The concept of HR intelligence, it is of inherent value and how practitioners can build HR intelligence capability within their firms.

HR profession's battle for strategic legitimacy has given rise to a plethora of methods and techniques such as HR metrics, balanced scorecards, employee and organizational surveys, research, 360-degree and multi-rated feedback systems and benchmarking approaches. Although these methods have significantly advanced HR practice, they are treated as very specific and narrow methodological specialties generally managed as independent programs and projects and largely exist within functional HR silos. More disturbingly, they often lose sight of their original intent and become highly institutionalized and symbolic practices. Despite the fact that companies spend millions on people research and analytics-related practices each year, no systematic process is available to make sense of and transform these disparate data collection activities into meaningful intelligence results.

Dr. Jac Fitz-enz, founder and CEO of the Workforce Intelligence Institute and a highly respected authority on strategic HR measurement, asserts that "we desperately need to advance traditional people research and analytics practices and develop a more scientific and evidence-based approach to predict business and organizational outcomes (Falletta, 2008)." Start with the business problem. HR analytics should not start with data or a preconceived approach to business problems, but with a business challenge. This point is often noted in the analytics discussion, and is actually the application of the "outside-in" thinking to this particular area of HR, Take HR analytics out of HR. This may sound drastic, but when HR analytics matures, it initially starts cooperating more with other departments' teams (in finance, operations, etc.), and eventually becomes part of cross functional/ end-to-end analytics - looking at human capital elements in the entire value-chain. HR analytics must transcend HR issues and become part of existing cross functional business analytics, just like the analytics from other functions must transcend their functional areas. . Although the use of HR metrics is well established today, it is not yet common to parlay these metrics into analytics that serve as leading indicators for business performance. While the interest in human capital analytics is growing and the future of this discipline holds great promise, it is still in its infancy and many barriers are holding back its wider adoption.

TYPES OF HR ANALYTICS IN THE ORGANIZATION

- Evidence-based management: managing the organisation based on a proven empirical approach.
- Decision science: decision-making based on academic research.
- HR intelligence: using HR data to contribute to the results of an organisation.
- Predictive analytics: predictive statistics; 'if HR policy DEF is introduced, then the effects will be KLM'.

BENEFIT OF HR ANALYTICS TO THE ORGANIZATION

I   To increase the quality of HR-related decisions by the adoption of Analytics in the organization.

II   Though the utilization of HR Analytics it will minimize the attrition rate in the industry.

III The performance of the employees will improve because they would be involved in making the decisions affecting the welfare and working conditions.

IV   Aligning resources with strategies Analytics proof to be an important tool.

V   Responding to user needs for availability of data on a timely basis for example which top performers in the organization are at risk to leaving and how might they be enticed to stay?

VI   To improve the organization's competitiveness.

CHALLENGES TO MAKING HR ANALYTICS WORK

As with any analytics implementation, the promise of these HR systems depends on an enterprise's ability to employ the right people, business processes and tools to make them effective. Among the challenges:

Lack of Analytic acumen among HR professionals: According to Craig, finding people with the right blend of HR knowledge and analytics training can be like looking for a needle in a haystack. "They have these highly specialized skills that are scarce in the labour market-almost esoteric," she says. "As a result, the HR leaders who are hiring and retaining them often don't understand what data scientists do and that creates a real challenge for managing and leading the workforce." Although many HR leaders are equipped to oversee an analytics system, some tools require skills in data modelling, computer science, statistics and math.

A lack of confidence doesn't exactly help matters: Only 6 percent of worldwide HR teams feel they are "experts" on the use of analytics in talent management, according to a report from Bersin & Associates. And only 20 percent believe that the data they capture now is highly credible and reliable for decision-making in their own organization.

Lack support from top Executives: Convincing higher-ups that it's time to invest in yet another HR system can be a tough sell. For years vendors have been pitching HR leaders on everything from time and attendance systems and employee self-service tools to performance management modules and enterprise resource planning systems. To build a strong business case for analytics, HR leaders need to measure beyond employees' past performance and begin to gather crucial data about workers' personalities, motivations, career aspirations, morale and cultural fit-information that feeds into the capabilities of the newer analytics systems and that can lead to a stronger ROI.

Data Deluge: In a February 2013 blog posting, online survey software provider Survey Monkey reported that it created about 25 terabytes of data over the past year on behalf of customers who gather information ranging from employee satisfaction to personality traits. An inability to parse this data properly can easily result in a data dump-a bloated repository of information that fails to deliver any real value to an HR team.

Inaccurate Data: The inconsistent or hard-to –access data requiring too much manual manipulation.

HR ANALYTICS IN INDIA

The Indian IT sector has emerged as a pioneer in using data analytics in recruitment in the survey. Over 80% of IT organizations stated they have a robust analytics process in place, finds. Studies over the past decade have shown that a judicious use of Analytics in Human resources can help predict up to 80 per cent the employee turnover, can help in making recruitment decisions by predicting the probability of the potential candidate to remain with the organization for longer than a year. Most of the companies employing analytics in HR primarily use it for recruitment, compensation and Human resource planning. Organizations like Dentsply India and Johnson Matthey are using HR Analytics to drive their organizations' HR strategy. Employees of these companies require specific domain knowledge, making talent management a very critical aspect. These organizations capture the employee data across all locations as well as utilize Gallup data and using Analytical tools they are able to design employee engagement programs based on the age, tenure and other demographics. This helps in making employee more committed to working with the company since the incentives can now be diverse and specific to what the employee requires based on his demographic profile. But all this is done at a very micro level. The focus is still lacking at the strategic level. As per the KPMG report in 2012, most HR teams understand the potential value of HR analytics, but they offer only generic and basic operational and transactional measurements. These metrics are unable to provide predictive data or actual insights that could have a positive impact on the success of their organization (KPMG, 2012). This is because the people dealing with analytics in HR are not specialised and do not necessarily have the capabilities of understanding of the business process to maximise discovery of data and analysis results that are acceptable. The reason could be that HR is still seen as a back office function or a cost function. There are not adequate resources in form of skilled professionals available to use the complex analytical tools to unlock the power of analytics.

MANAGERIAL IMPLICATIONS

Organizations would have to design a new Human Resource Analytics matrix which is sensitive to Human existence and decision making. The Human Resource policies in the organization has an impact on the future of the organization; Hence HR concepts that get packaged along with modern Human Resource management policies for major decision making are likely to revolutionize the workplace. The bottom line is that people want to be cared for and respected. On their part, organizations want commitment and integrity. A successful combination of committed people and a benevolent organization would be beneficial in the long run. This is possible only if organizations adopt HR practices with modern Human Resource practices and philosophy.

HR Analytics research is required to examine leadership and management skills required across the stake holds of organizations and make an assessment to what extent to

which new technical and managerial knowledge can be appropriated and have new school of thinking that can be used to achieve knowledge transfer and Human Resource Development based on the scientific decision making.

SCOPE FOR FUTURE STUDY

Future studies can focus on extending proposed theoretical frameworks, by testing and validating them thereby new models can be created. In this whole process, employee's perceptions regarding the change from traditional decision making to evidence based decision making can also be studied. Lastly, measuring the risks and challenges of the physical implementation of HR Analytics, both in terms of tangible and intangible factors can have a huge research potential that is to be explored.

CONCLUSION

As the business environment continues to remain dynamic, alignment of Human capital to business strategy and decision making is more critical than ever. Nevertheless, HR Analytics is still at its infancy. It is strongly believed that would be a sustainable business strategy in the near future. Most of the companies are still waiting for that one big success story so that they can imitate at a meagre risk. Changes in the workforce demographics, dynamics and diversity would make HR Analytics an imperative for sustainable business performance. Hence, it is no longer a question of "why" but rather "when", "where", and "how" to utilize the power of analytics in HR. Advancements in the science and art of analytics, coupled with emergence of focused solutions and providers, are making it possible for HR organizations to better address traditional challenges and start their analytics journey with confidence.

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