HR Analytics: Trend from Data to Predictive Analysis for HR Professionals

Megha Gupta* and Dr. Nandini Srivastava

Abstract--- Though the analytics function in the organizations have shown upsurge in its usage specially in functions like sales, marketing, finance, operations however its application & interest in the people function is still lagging behind and need a push. In this study the researcher primarily aims towards measuring the levels of usage of HR analytics. It has been diagnosed that practice of HR metrics is still in its early phases and have a high scope of leveraging it to its full potential. Though HR professionals have a common consent in agreeing the fact on the importance of People metrics, however at the same time they endorsed the main hindrance in its implementation is analytical skill gap. Pertinent to note that as per the concerned literature review the global perception is optimistic. This paper seeks to discuss the paradigm shift from mere data presentation to taking proactive predictive decision on people matters. Through this paper the researcher has tried to gain awareness on the tradition of HR dashboards, data, analytics and metrics. This research project enlarges the span of information on the theme of HR analytics being educational in nature and also comprehends the journey of people analytics as well as its current applications and a charter to leverage it further for the benefit of the establishment.

Keywords--- People Analytics, Talent Analytics, Human Capital, HR Metrics, Predictive Analysis, Big Data.

I. INTRODUCTION

As per latest exploration on the analytical capabilities and practices of people function, suggested "most organisations are still woefully unprepared to deal with its rapidly rising ocean of data. It reports that while many HR organisations are proficient at collecting and measuring HR activities, few have the ability to measure predictive outcomes or identify the factors that most affect results". [1]

Business functions like Finance, Sales, Marketing, Supply Chain are already in the drive of sophisticatedly using analytical tools for the predictive analysis of the data using where they have dependable metrics [2]. However, people function still needs to gain momentum on this aspect that connects employee's measures with organizational growth.

Research acknowledges "many companies are slowly evolving their HR analytics into what calls a 'model of predictive management' for human resources"[3-4]

In other business functions like sales, supply chain, marketing and finance, analytics is already being used extensively as these departments have predictive data and steadfast metrics and systems in place capable of carrying out meaning inferences for business decisions. Having said that, human capital is still finding it challenging to have similar analytics model in place that is aligned with company's progress. [2]

Scholars add to this point by saying "executives in charge of marketing, finance, information technology, supply

Megha Gupta, Manav Rachna International Institute of Research & Studies, Faridabad.E-mail: megha2hr@gmail.com*
Dr. Nandini Srivastava, Manav Rachna International Institute of Research & Studies, Faridabad.

chain management and customer relationship management are recognizing how data-driven insights can be used to generate impressive business results". However, the writers oppose the fact that human resources department is behind in using HR metrics. They believe that though HR accumulates the fair deal of data on attrition, cost per hire, return on training programs, budgeted versus actual manpower etc however the challenge is to relate these statistics with real time solutions for better business growth. As they put it, "marketing, finance, and most other functions have well-developed methodologies for generating the information managers need to make strategic decisions. HR, however, often focuses principally on its own performance. It's time for HR to shift its focus from what it does to the quality of the talent decisions it supports" [5]

A report from a multinational organization suggested that similar to other line functions, people function should use an analytical reference point to take resolutions that embarks on the journey of organization's growth. HR teams already have a control on their data and reporting of the same, but still there is a way to go in utilizing these statistics for data forecasting, extracting inferences & doing predictive analysis. [3]

Widespread organizations like Royal Bank of Scotland, Tesco, Google, Intel, Procter & Gamble already have well defined HR analytics team that shares profounder acumens into their people norms. [6]

Few instances of workforce analytics consist of classifying high pot employees, defining comparison between budgeted & actual headcount, overtime, attrition percentage [7]

Few authors have presented an exemplary of social media analytics on people matters, customers and behavior informatics. They suggested "HR analytics can be used for many of the HR value chain elements such as recruitment, selection, performance, development and transitioning". [8]

Other novelists coincide by quoting cases in performance management, selection, on-boarding, employee engagement surveys, succession and talent planning where people metrics can be leveraged to have desired outcomes. [9]

Amplified emphasis on talent metrics has driven effective Management of talent pool as backed by writers. [10-12]. Supporting this, other scholars suggested that talent metrics, technology, dashboards and analytics are crucial competences that will be required by HR teams. [13]

From the reviewed collected works and studies, it is clear that the companies need to embrace HR analytics as a part of their value chain. The only aspect that need to be measured is till what extreme establishments have gone in implementing this practice.

II. LITERATURE REVIEW

Definition of HR Analytics

"Analytics targeting human resources has been given many names in the past from Talent Intelligence, Talent Analytics, HR Analytics or Workforce Analytics". [14-15] [6] [9] [3]

One of the writer suggests "HR analytics ranges from basic reporting of HR management information or metrics, to the end of the spectrum being that of predictive HR". [7]

For the analytical modelers, HR analytics comprises of defining magnitudes of policy revamping, projecting and digging into "what if" situations. Talent analytics involves statistics factual models to envisage impending employee-related behavior and events by assimilation of HR numbers & figures. It is perhaps referred as workforce analytics as well [16]. Few authors further resist that "the answer is probably both – that HR analytics is basic reporting as well as predictive modelling, not either". [2]

Researchers all-inclusive Explanation

"HR analytics transforms HR data and measures into rigorous and relevant insights. It includes 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 organisations"

Researches shows that the key differentiator between top-performing companies and lower-performing companies is their degree of leveraging Talent Analytics as talent management tool. [17]

With the help pf Talent Intelligence, HR Business partners can direct Leadership and talent acquisition team in making an equilibrium between the workforce investment & overall progress of the company Inevitably, this showcases the supremacy of workforce analytics fundamentally drives success of any establishment. [18-19]

High-performing organizations leverages Talent analytics to arrange their people strategies with their business tactics. Their article states "these companies have taken the guesswork out of employee management by leveraging analytics to improve their methods of attracting and retaining talent, connecting their employee data to business performance, differentiating themselves from competitors, and more". [6] Human capital plays a vital role in these deliberate initiatives. In order to earn a substantial financial return from their people investments, the businesses need to enrich the inclusive value delivered by their employees with the help of data provided by the talent analytics.

There is no doubt on the belief of HR practitioners that HR should play a crucial differentiator character in organisations: however, there still exists an ambiguity between the habit of metrics and the amount to which HR is a key partner. [20]

In a symposium held by the Society for Human Resource Management, professionals and influential approved that in order to have better informed decisions and to project value addition, the customary HR dashboards must progress into talent analytics. [21]

Worth of HR Analytics

Numerous establishments have HR data and dashboards in place as a part of their reporting protocol but only handful of establishments use it for proactive planning & forecasting. [22-23]

There is neither dearth of technology nor HR tools for analysis and this is further being endorsed by the reporting mechanism being followed in the people function. [10-12]

"Sceptics of HR analytics claim that the value of employees cannot be measured or predicted, saying that what they describe as workforce analytics is 'a way of treating people like widgets'. The authors state categorically that

this is not what HR analytics is about. They believe that HR analytics is about the basic human and organizational endeavor: putting the right people with the right skills in the right work". Predominantly, the writers trust that businesses that pull people analytics prosper through hard times and have the most betrothed employees. [24]

Few from the HR fraternity have debated that they haven't felt the need for the workforce analytics as their leadership team have never asked for the same. To which the author said this is not a justification for adopting a complacency approach. Besides this he further contends "…how could you expect the CEO to require something that he or she probably does not know exists?" [7]

In 2009, IBM in its study originate that there exists a strong mutual relationship between use of HR Analytics and proportionately how effectively organizations are able to manage their employees. Two-third of the respondents cited that the paramount advantage of talent intelligence is enhanced level of efficiency & proactive approach, whereas three-fourth considers improved dimensions for workforce management as one of the extreme value of people analytics. Most of the respondents believe that to have a better ROI of talent Management, workforce analytics plays a vital role. Still with greater hopes from Talent Analytics in increasing people efficiency to deliver desired business outcomes; implementation of the same is limited both in terms of skills and technicality related to data like accurate, reliable facts & figures, data consistency, analytic capabilities of end users, systems integration and information accessibility. The resolution for this gap is a cohesive methodology that associates competent employees with technology. [25]

For human resources function, solicitation of analytics is not novel. Metrics were already in place to track costs of labor, worker productivity, manufacturing downtime and employee benefits since long span of time. [26]

Various scholars have been supporting that people deeds and their influence on business activities should and can be quantified. The anecdotal reporting no longer exist in contemporary times where the hard evidence is the new dialectal.

HR's Evolution: Tactical Professional Partner

In the last decade, many researches have been done on people function being evolved from personal management to HR or talent management and aspiring to be seen as premeditated partner backed by HR Analytics. The distinction in terms of a three-stage progression of Human Resources is defined as first being the personnel stage concentrated on governance & compliance, current is human resources phase that concentrates on delivering HR services and then an evolving 'talentship' period that will emphasize on making worthy conclusions around people matters. [27]

HR fraternity has yet not been able to match up the rhythm with other business functions of using metrics for meaningful solutions needed to influence strategy despite being custodian for employee data. In today's scenario having only HR efficiency data will not suffice but logical data that can stimulus business verdicts is an assured way to grasp a boardroom seat. The existing status quo refers that most of the establishments have good efficiency data; however, this mere excel does not second that HR being a strategic partner. Though they acknowledge that over the year's people profession has matured in grace & intricacy but it is lagging in yielding desired results compared with

other functions who went through a paradigm shift from Marketing to Sales, Accounting to Finance, Procurement to Supply Chain Management. [20]

People function to prove its worth in organisations should leverage talent analytics to comprehend the effectiveness of HR policies & practices on the organizational progress.

HR Advancement: Predictive Analytics

For several years' predictive analysis & forecast in people function was in much discussion, with models like job demands and manpower supply & corresponding resources available in the market. [28]

One of the researcher dialogues ''when we talk about predictive analytics everyone thinks you need to be doing statistics, but that is not necessarily the case. There are two steps. First, you need a logical framework or mental model, to think through what your problem is and identify the key variables. Then you may need statistics or metrics to help determine the best decision; but people forget the first part and fixate on the metrics'' [29-30]

Human capital profession was further taken ahead with Predictive analysis by replying to questions "what could happen", "when could it happen" and "How it can be curbed". HR fraternity not only have to implement HR analytics in its day to day operations for analyzing past performance & current trends but should move towards forecasting future movements, doing predictive analysis and recommending resolutions which are in line with company's goals. Indeed, it is illustrated that though there is keen interest of HR practitioners towards talent intelligence however the same is still in its initial stages.

Institute for Corporate Productivity (2012) in its recent testimony claims that even for high performing establishments, there is a scope for leveraging predictive analytics for resolving people matters ne it identifying high potential employees, assessing best recruiting channels, upcoming technology in learning, carrier development programs, anticipating exits etc. [1]

Below 3 levels of analytics: [31]
Descriptive analytics - describes "what happened", "what is happening now".
Predictive Analytics – answers "what could happen", "when it will happen", "where we are heading".
Prescriptive Analytics – defines "what is the best course of action", "What steps should be taken".

The dissimilarity with predictive & prescriptive analytics is that the former defines the possible outcome in given circumstances while later describes the best practice that should be followed in the current situation.

Evidence based HR: From Intuitive to Logic

Fraternity of human practitioners has initiated the use of proof centered HR while taking decisions, this has come into picture with improvements in technology, research, methodology of quantifying intangibles. "Applying scientific standards of causality to demonstrate how intangible human capital can be practical and shown to add tangible business result. HR professionals are now sensing an urgency to move away from casual observation to causal evidence" [26]

Moreover, evidence-based HR aids imperative goal of sharing logical insights in people function to drive business results.

Classification of HR Metrics

3 various kinds of metrics required by businesses to better apprehend and be cognizant of the effect of HR processes on organizational strategy. [20]

a. **Efficiency** – demonstrates output metrics such as TAT to close position, manpower ratios, and cost metrics – backfill cost, cost per employee, budgeted versus actual cost

b. **Effectiveness** – described if the implemented HR policies/ processes have the capability to direct the talent towards real output for organisational growth.

c. **Impact** – validates a direct proportion amid HR activities and its outcome on organization's progress.

Below pointers were suggested by Vokic (2011) for measuring HR activities. [32]

Table 1: Examples of Indicators by HR Functions

HR functions	*Examples of indicators*
HR planning	• Extra Working hours • Attrition percentage • Manpower consultants headcount
Task analysis	• Job description • Costs of job analysis • Job evaluation parameters
Talent Acquisition	• No. of applicants per vacancy • Prospect hire per job • Recruitment sources • Internal hiring rate • Backfill cost
Selection	• Costs per hire • Early Attrition • No. of applicants interviewed • Candidate Experience • Internal client satisfaction
Appraisal Management	• No. of employees to be appraised • Authenticity of review mechanism • Cost impact post appraisal • TAT for appraisal closures
Compensation management	• Manpower costs v/s total operating costs • Costs of overtime paid • Average CTC per employee • No. of salary hikes • Existing benefits • Employees' contentment with salary, rewards, benefits
Learning and development (L&D)	• Man hours of training • Training effectiveness/ ROI • Savings incurred due to trainings • Training cost per employee • Impact on knowledge, skill, attitudes, work performance, behavior due to T&D
Career Planning	• Percentage of employees involved in career & succession planning • Costs of career growth programs
Employee safety issues	• No. of employees vaccinated • Internal health and safety inspections • Average number & cost of injuries per case • Productive hours lost due to work injuries

Based on Sikavica et al. 2008. p. 626-629, Adapted from Vokić, N. P. (2011) [33]

To summarize, from the read literature it is apparent that HR practitioners are well aware and endorse that HR analytics is imperative for people function to play a vital role in driving organizational effectiveness. People function should now move from mere data reporting to predictive analysis, probing key questions and figuring out the right strategy to apply.

III. CONCLUSION

HR is a custodian of vast employee data which it collects from the moment a candidate becomes an employee. The time has come wherein this data should speak for current & future trends, employee beliefs & organization culture. For this HR practitioner has to move ahead from mere data tracker to genuine logic insights of where the department is heading in terms of its talent pool which will impact organization's effectiveness in a big way. Indeed, there will be substantial venture in the extent of analytics in upcoming years on its technology, skills & talent. To have an edge over its competitors, companies should include its HR numbers, statistics in annual reports to propel the fuel of using workforce analytics in corporate world.

In current scenario, most if the organizations have HR dashboards in place but they need to further strengthen this to conclude by doing predictive analysis & forecasting. However, for the organization, where HR reporting is still in its infancy stage, it is noted that these establishments will deploy and develop such competences in next few years. Apparently, this replicates the noteworthy projected upsurge in the investment, curiosity & usage in this subject in times to come.

One area which is constantly talked about is Data Credibility means availability of authenticated, reliable & accurate data for the input. Data concerns are from various directions: from collecting it from different geographies, different business lines, in a standardized form to dig out meaningful inferences. The inhibitions lie in ability of organisations to collate numbers into a single, centralized database with consistency & quality. One the most critical building blocks in implementing analytics is methodical talent capable of conducting quantitative analysis using statistical models that companies require for business improvement. In upcoming years, Talent Analytics will be a key differentiator for the function in assessing HR's contribution to organisational growth. To avail this position, companies need to invest on its people function, technology & develop skill set of its employees wherein they are able to extract right statistics at the right time with right tools and are able to present it suitably to support the organization's to navigate in such VUCA environment and implement business process change by bringing HR analytics to the boardroom table.

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