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Technological Innovation of Big Data and HR Analytics Transforming Employer Branding Paradigm

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Abstract: Data has penetrated into every functional area of business and industry. "Internet of things" "cloud computing" and "big data" are buzzword of Technology which is driving management. Technology facilitates transformation of HR systems and practices dimension of employer branding. Digital transformation of human resource practices is the need of the hour. Digitization of Human Resource is prompting paradigm shift in employer branding domain. Big Data and People analytics are reinventing HR and driving innovation in an extraordinary manner. Continuous Innovation comes from people. Business decisions and innovation is made by the employees so developing innovators by recruiting great managers is the challenge for companies. People Analytics facilitate accurate people management decisions. The most important currency for business decision making process is data. Google is the world's largest data driven company. Fortune Magazine and the Great Place to Work Institute named Google the 2014 "Best Company Work For." This marks fifth time at the top of the list. Google People Analytics approach are powerful and breathtaking. Organizations are investing billions dollars in formulating and implementing strategies. Facebook acquired WhatsApp; Google bought Nest. Data paradigm bringing Radical shift in employer employee relations which influence employer branding. Wise use of big data and analytics can enable HR role as a value driver, competitive player, strategic partner, Game changer at organizational landscape. This is an exploratory study and main purpose of the study is to identify the role of big data and HR analytics in Employer branding from the perspective of human resource systems and practices dimension. Survey Reports, Research insights of organizations like KPMG, Accenture, PWC, Oracle, Deloitte, McKinsey, Capgemini, IBM, and Google have been refereed. Research articles have also been explored extensively on the topic and sub topics to compile the content and conclude this article.

Key-words: Big Data, Data analytics, Data-driven Science, Digital humanities, Digital HR, Employer Branding, HR Analytics, HR Decision Making, Talent Management, Technology Driven HR, Social Media, War for Talent.

I. Introduction

Big Data refers to datasets whose size is beyond the ability of typical database software to capture, store, manage and analyse. Currently, it can range from a few dozen terabytes to multiple petabytes, according to a recent report by McKinsey and Co. Employer branding position an organization as an employer of choice to attract, recruit, engage and retain top talent. The term 'Employer Branding' was coined by Simon Barrow in October 1990. Minchington (2005) defines employer brand as "the image of your organization as a 'great place to work'. Employer branding has become a top priority for organizations in their quest to win the war for talent. The war for talent term is coined by Steven Hankin of McKinsey & Company in 1997. The concept of E.B is increasingly gaining interest in the academic (Ambler & Barrow, 1996; Lievens, 2007) as well as the practitioners' domain (reports from conference Board, CIPD etc.). Innovation of big data is transforming all the functional domain of human resource management by creating the need for right talent. War for big data talent among industry professionals has necessitated the need to attract and retain the best talent so Employer Branding comes to play a vital role.

II. Relevance of the Study

Gartner expects the market for BigData and analytics to generate \$3.7 Trillion in products and services and generate 4.4 million new jobs by 2015. While most of the talk is about applying Big Data to marketing and consumer businesses; there is an even bigger opportunity to apply Big Data to Human Resources. Workforce Analytics, Talent Analytics, People Analytics and Human Resource Analytics are synonyms and hot topic in HR. Now unpredictable complex business of human interactions can be data-driven.

Real-time information from corporate portals, job portals, professional networking sites linkedin, social media twitter, facebook, images, sensors, web etc. generate lot of data about current and prospective employee and employer. This data can facilitates HR analytics on different dimensions of HR functions. It will help in understanding employees, credibility, expectations, aspirations of current and prospective employees. Similarly

current and prospective employees come to know about their potential employer. It helps in formulating right HR strategy which is the most important component of employer branding based on data facts and figure. HR leaders are required to formulate proper employer branding framework and appropriate HR policies to be a strategic partner in change management and organizational growth. HR Systems and processes are one of the important dimension of Employer Branding which is getting influenced by Big Data.

III. Background of the Study

Businesses are transforming in shorter and faster innovation cycles. Transformation means listening the calls for the moment and being able to re-think, re-discover and re-invent business strategy. Organizations need to re-orient their employer branding strategy as per the marketplace pace to adapt people operation according to new business models. Strategic HR planning formulation execution and adaptation in innovative context will drive transformation and profitability.

To sustain a competitive advantage it is imperative to attract and retain best talent. Human capital leverages all other forms of intangible assets. HR has struggled for credibility and importance, as it has viewed as have little or no impact on company strategy or success. But the digital innovations have derived this knowledge-based economy and have necessitated the need to paradigm shift in employer branding. HR professionals can take smarter accurate decisions by applying decision science approach. This will end the era of decision making based on hunch, gut and intuition.

Organizations must recruit data scientists who can find patterns in very large data sets and translate them into useful business information. President of marketing, project heads spend billions of dollars on quantitative and qualitative analysis before launching a new marketing campaign or project. Talent management decisions of attraction, recruitment, maintenance, selection, promotion, appraisal, retention etc are being made on different parameters as per industry benchmarking practices. Human Biasness bound to creep even in 360 appraisals. Companies are thinking of mathematical people operation strategy. All HR functions must be done by programming, algorithm as being done by Google.

IV. Objectives of the Research

1. To understand big data concept influence on different HR functions
2. To relate big data concept with HR Analytics
3. To explore industry practices research and expert insights on HR Analytics as a strategy for Employer Branding
4. To know about companies which are offering different types of Technological HR Tools Training and Consultancy to embrace this change

V. Research Methodology

This paper is exploratory in nature and qualitative study of existing researches have been explored to gain insights. Content analysis of corporate websites, white papers and research insights of prominent consulting companies along with Survey Reports have been accessed. Reports accessed from McKinsey KPMG, Accenture, PWC, Oracle, Deloitte, Capgemini, Aon Hewitt, Mercer etc. have been explored to gather data facts and figures.

Extensive research of literature review from academic articles, papers and Journals have also been done. Industry professionals are feeling the heat on recruitment training and retention front pertaining to big data professionals. So industry insights and their leaders thought have been extensively considered and taken into account to conclude the findings.

VI. Literature Review

A. HR Analytics

Human resources analytics provide exact approach to effectively manage all employee operations so that HR can be considered as a profit center and strategic partner in achieving organizational goals. Randstad India President of Staffing suggests analytics helps in identifying HR blind spots in the company. Rajiv Krishnan, EY partner and leader, people & organization Practice thinks that role of HR professionals are getting transformed because of predictive nature of data analytics. P Thiruvengadam senior director Deloitte, India opines that HR analytics helps in tracking, analyzing and sharing employee performance.

B. Application of Big Data Analytics in Different Companies

Google evaluating applicants on many dimensions of quantitative analysis by assessing mathematical reasoning, problem solving and analytical logic in the recruitment process. Henschen, 2012 study suggests as per the Information Week report that organizations are offering big data training and development programmes.

Google has Project Oxygen, which focuses on the "Eight Habits of Highly Effective Managers" to impart various training for performance improvement of managers on big data. Industry reports surveys suggest that

big data is playing and will play a vital role in strategic manpower planning, talent acquisition, employee selection, learning and development, performance evaluation and employee engagement.

C. Big Data HR Challenges

Big Data has come with a big responsibility in the field of Information Communication Technology. To collect, encrypt and decrypt data is a big challenge and the biggest challenge is predictive analytics. Nestle, Unilever, Pepsi and other companies are utilizing people metrics and insights for functional domain of HR which further helps in the business performance improvement.

VII. Findings

Strategic Manpower Planning, Job Analysis and Evaluation are required to be done to attract top talent. Employer Branding can communicate organizational message to the prospective applicants. Industry insights have helped me to conclude my findings as the Skills required for big data professionals, appropriate proactive strategy to win war for talent. It has further triggered the need of HR technological tools and consultants for strategic use of data.

Big Data Skills

1. Technocrats and industry professional's insights suggest that big data analyst must have the knowledge of managing database, extracting and retrieving data in real time. Further analyst must have the business intelligence to customize the data as per particular requirement.
2. Sound Mathematical knowledge and programming skills are required to develop algorithm and loop for data warehousing and extracting data of Job Seekers or prospective applicants from different Job Portals and Networking Sites. It can also facilitate instant credibility check
3. Data Integration Skills are required to customize the data according to different requirements and integrate it as per business requirements
4. Business Management skills and Functional HR Knowledge is required to perceive the need and essence of data for different purposes
5. Knowledge of application of different tools of Business Analytics and HR Analytics is required to make proper use of data by having Customer Centric Approach
6. Competence for Cost, time and workforce Optimization from formulation to implementation stage is must
7. We can say right combination of technology and managerial knowledge, skills, ability and competence required to play with the data for market oriented approach to win the war for talent.

VIII. The Big Data Talent Crunch

The McKinsey study anticipated talent crunch of big data analyst. Professionals for crunching the number as per business requirements is going to be in great demand. Industry will face the heat in attracting and retaining the required manpower. New Vantage Partners 2012 and Raywood, 2012 study further corroborate these points. Employer branding can project image of organizations to attract the right talent and can be used as a strategy to defeat this war for talent by delivering right message to the potential applicants. Talent shortage will create a significant challenge for professionals responsible for recruitment, maintenance development and retention. HR professionals can equip themselves with the right tools and take help of expert consultants to properly incorporate HR analytics strategy for business excellence.

The HR Technological Tools

HR software companies have launched many tools and are offering customized solutions to facilitate all functional work of HR professionals. Big players and small vendors are delivering analytics tools like Visier and Oracle's Fusion. Sap, Mercer and other players are also in the race.

The HR Data Analytics Consulting Market

Data analytics is a multi-disciplinary problem; Consultants are perceiving growth and offering different services. Big Data and talent analytics will become a consulting-driven market for the next few years. The real challenge is process and expertise to make use of amazing set of tools. In house experts are working but consultant intervention is also required. Mercer, for example, launched its iknow platform (a toolset based on Micro Strategy), Deloitte has a major practice in data analytics across all business functions, and IBM is putting together a wide variety of analytics services (to also leverage Cognos and SPSS, two tool sets now sold by IBM).

IX. Recommendations and Suggestions

Organizations are required to consider following points for embracing the change influenced by Big Data. Employer branding dimensions are required to be transformed to incorporate HR Analytics in the functional area of HR.

1. Top Management Support –Business and Technology leaders who belong to C class executives must lead and facilitate the change.HR professionals are required to be considered and trained as a strategic partner and change master at every step in this transformational process.
2. Training of HR and talent management professionals – Employees must know understands and implement big data concept in all HR functional domain. On the job training, webinars, under guidance etc will also facilitate quick and proficient transfer of learning.
3. Strategic manpower planning followed by accurate Job Analysis is required to be done.HR professionals must do Job Description and Job Specification by thoroughly understanding big data concept and its implementation.
4. HR professionals must anticipate talent crunch of Big Data professionals. Appropriate recruitment strategy is required to be formulated to pitch the right talent. Aggressive recruitment strategy may lead to poaching so HR professionals must think creative and out of the box to meet the growing need of talent. Talent Retention is going to be the biggest concern so HR professionals must keep their eye open & provide competitive packages, benefits etc.
5. Technical, behavioral and structural interventions are required for Organizational Change and development to embrace effective change of HR Analytics.

Employer Branding can act as a facilitator by providing turnaround strategy for effective attraction and retention of talent.

X. Conclusion

HR analytics and employer branding focuses on these dimensions Talent Technology and Techniques.Qualitative extensive research has explored impact of big data on HR dimensions of employer branding.Orgnaizations case study and practitioners, industry leader's statements have been quoted. It focuses on analytical strategy of different sub constructs of HR dimension of employer branding like Recruitment, Training, and Engagement etc which is being implemented to embrace change of big data. This study concludes that technological innovation of big data concept is driving management revolution with specific reference to human resource management. Internet of knowledge (Wikipedia), Internet of People (Networking Sites), Internet things (IOT) and Internet of everything (IOE) is generating massive amount of data .To warehouse required applicants data, extract it on time and apply business intelligence for attraction and retention of right talent can be facilitated by re-formulating employer branding strategy. Employer Branding can act as a powerful tool and facilitator for attraction and retention of talent in this era of War for Talent for Big Data professionals and HR Analyst.

References

- [1] AHALT, S. (2012 July). Establishing a national consortium for data science. Retrieved from http://data2discovery.org/dev/wp-content/uploads/2012/09/NCDS-Consortium-Roadmap_July.pdf.
- [2] AMBLER T,BARROW S .(1996) The employer brand .*Journal of Brand Management* 4 (3) : 185 – 206
- [3] BEYER, M. and LANEY , D. (2012). The importance of "big data": A definition. *Gartner*.June 21. Retrieved from <http://www.gartner.com/DisplayDocument?ref=clientFriendlyUrl&id=2057415>.
- [4] CIO editors (2012). Strategic Guide to Big Data Analytics. Framingham, MA: CIO.
- [5] CLARK, D. (2013)How big data is transforming the hunt for talent. *Forbes* March 8 . Retrieved from <http://www.forbes.com/sites/dorieclark/2013/03/08/how-big-data-is-transforming-the-huntfor-talent>.
- [6] The insight economy Big data matters - except when it doesn't <http://www2.deloitte.com/content/dam/Deloitte/global/Documents/Deloitte-Analytics/dtl-analytics-us-ba-insight-economy-10012012.pdf>
- [7] HALL, S. (2012 Big data talent shortage requires creativity. *ITBusinessEdge*. July 23. Retrieved from <http://www.itbusinessedge.com/cm/blogs/hall/big-data-talent-shortage-requirescreativit/?cs=50835>.
- [8] HARRIS, J. (2012). Data is useless without the skills to analyze it. *HBR Blog* September 13. Retrieved from http://blogs.hbr.org/cs/2012/09/data_is_useless_without_the_skills.html.
- [9] HENSCHEN, D. (2012). Filling the Talent Gap in Big Data Analytics. *Information Week*.October12
- [10] LORENZ, M. (2012). Does big data live up to its hype? *The Hiring Site*. November 15 Retrieved from <http://thehiringsite.careerbuilder.com/2012/11/15/does-big-data-live-up-to-its-hype/>.
- [11] MANYIKA, J., CHUI, M., BROWN, B., BUGHIN, J., DOBBS, R., ROXBURGH, C. & HUNG BYERS, A. (2011). Big data: The next frontier for innovation, competition, and productivity. *McKinsey GlobalInstitute*. May Retrieved from http://www.mckinsey.com/insights/mgi/research/technology_and_innovation/big_data_the_next_frontier_for_innovation.
- [12] RAYWOOD, D. (2012). Big data analyst shortage is a challenge for the UK. *SC Magazine*. December 3Retrieved from <http://www.scmagazineuk.com/big-data-analyst-shortage-is-achallenge- for-the-uk/article/270538/>.
- [13] ROONEY, B. (n.d.). Big data's big problem: Little talent. *The Wall Street Journal*. Retrieved from <http://blogs.wsj.com/tech-europe/2012/04/26/big-datas-big-problem-little-talent/>.
- [14] THOMSON, I. (2012). Big data skills gap needs filling says tech industry. *The Register*. October 4 Retrieved from http://www.theregister.co.uk/2012/10/04/big_data_skills_gap/.
- [15] VILLARS, R., EASTWOOD, M. & OLOFSON, C. (2011 June). Big data: What it is and why you shouldcare. *International Data Corporation*. Framingham, MA: IDC.
- [16] WOODS, D. (2012). Will data science become the new bottleneck? *Forbes*. November 21 Retrieved from <http://www.forbes.com/sites/danwoods/2012/11/21/will-data-science-becomethe-new-bottleneck/>.

- [17] GIGLIO Gabriella, HUSELID Mark, MITCHELL Hugh, TERRELL Kate , ULRICH Dave , Mazijk Athene van, Westcott Mike (2015) Rethinking Human Resources in a Changing World .March 11 Retrieved from <http://www.kpmg.com/global/en/issuesandinsights/articlespublications/hr-transformations-survey/pages/default.aspx>
- [18] TIM Good, CATHERINE Farley, Himanshu Tambe, and SUSAN Cantrell (2015) .Trends Reshaping the Future of HR Digital Radically Disrupts HR .Accenture. March Retrieved from <http://www.accenture.com/sitecollectiondocuments/pdf/accenture-future-of-hr-digital-radically-disrupts-hr.pdf>
- [19] A new vision for growth Key Trend in Human Capital (2014) <http://www.pwc.com/gx/en/hr-management-services/pdf/pwc-key-trends-in-human-capital-2014.pdf> March 1
- [20] Using Digital Tools to Unlock HR's True Potential.(2015) http://www.capgemini.com/resource-file-access/resource/pdf/digitalhrpaper_final_0.pdf March 7
- [21] JONES, Steve (2015). Retrieved from <http://www.capgemini.com/resources/video/steps-to-success-for-big-data-adoption> on March 10

Disclosure

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