DOI 10.18372/2786-5495.1.15737

Ansho Kuriakose Doctoral Studies, Turiba University, Riga, Latvia Manager Central Government Organization, Kochi, India

HR ANALYTICS – EMPOWERING ORGANIZATIONS

Annotation. The world of business is fast evolving and as the famous Heraclitus saying goes "Change is the only constant in life" which applies to all Organizations, adapting to the new and consistently re-inventing becomes the life line for survival.

The era we live is one marked by highly competitive corporates who influence the day of every living being in one way or other through the products/services they offer. These Organizations, most of them have a global scale of operations are on a constant vigil regarding their internal mechanisms and is on the lookout for grabbing the best opportunities. The HR Department traditionally considered as a support function has itself in the last decades evolved into a Business Partner role aligning with the Objectives of the Organization. This paradigm shift brings a lot of stress on the Human Resource Management system, who is the vital facilitator in driving the organizations transitions smoothly. The major factors which accentuate the same are diminishing boundaries of trades between nations, increased competition, growing interdependence of the world's economies, etc. To accommodate for more accuracy in decision making, being a strategic Partner ,HR function has to rely on evidence .Human Resource Analytics (HR Analytics) being a data driven approach is a vital tool in this regard for the Organizations.

The objective of this paper is to study the importance of Human Resource Analytics in managing the human resource of the organizations and whether it provides a competitive edge. In addition, the exploratory research made gave insights into the competitive edge derived by the organizations and its impact on Business Goals, increasing interest shown by many organizations in HR Analytics and the various methods used by them as evidence based approach for making strategic decisions which in turn has helped them in achieving the set Business Goals.

Keywords: HR Analytics, Work Force Analytics, Management, HR, Empower, Data, Decision, Business, IT, HR Metrics, Scorecard, Predictive Modelling and Employee Engagement

Human resource analytics is a contemporaneous phenomenon of present. The organizations are trying to improve the precision of decisions through data analytics. To improve the efficacy and efficiency in the organization, there is a need to have prescience for future course of activities envisaged. Data related to every aspect of employees in the organization should be well assessed, evaluated and analysed to make appropriate decisions regarding employee's issues. Analytics orientation will give an edge to an organization on their counterparts and will add value to it. The organization failing to assess previous data related to people have possibility of making wrong decisions on workers affairs. Organization is to combine all organs associated with this and all have specific functions. Each function contributes to attain the objective of organization. It is an essential part of human life for accomplishment of established goals (Hargrove, 1915). The organon the ancient Greek word is the originator of term organization. This is a purposeful, open system which has both formal and informal structure. This is defined as a set of activities done in order to accomplish set objectives (CRIEPI Report, 2006). According to Barnard (1938), "a formal organization is that kind of cooperation among men that is conscious, deliberate and purposeful". According to March & Simon (1964), "organisations are assemblages of interacting human beings". On the other hand, Etzioni (1958) views "an organization as a social unit to seek specific goals" (Dzimbiri, 2009:11). According to Pareek (1997), evaluation of human resource development functions is not being done; the related component and practices of this are left. The internal working of an organization and its impact on performance of organization is hardly

II Всеукраїнська науково-практична конференція за міжнародною участю 12 травня 2021 року

assessed. Singh (2000), has explored that organizations working in India did not believe that investment made in human resources processes have to do with performances. But it was also found a positive correlation between Human resource practices and organizational performances. It shows if human resources will be considered important dimensions definitely it will help in organizational performance. HR analytics add value to the functions of HR department and improve the effectiveness and efficiency of every associated aspects of it. To add value in the organization analytics is a powerful tool that impacts HR practices and policies and improve HR functions. Analytics has interaction with much discipline like computer, engineering, science etc. (Angrave et al. 2016). HR analytics can be defined as to understand relationship between performance of organization and HR practices. In case of effective HR practices it leads to employee satisfaction and provides strong foundation where decisions regarding human capital and business strategy can be performed. Analytics enabled organization bring precision in decision making. It is possible with the use of statistical techniques and experimental approach (Lawler et al. 2004). HR analytics is: "a methodology for understanding and evaluating the causal relationship between HR practices and organizational performance outcomes (such as customer satisfaction, sales or profit), and for providing legitimate and reliable foundations for human capital decisions for the purpose of influencing the business strategy and performance, by applying statistical techniques and experimental approaches based on metrics of efficiency, effectiveness and impact" (Dooren, 2012). HR analytics makes an organization enable to use the wealth of their employees and that will leads to the better decisions which automatically improve the organizational performance, HR analytics empower an organization to streamline strategic business goals with Human resource metrics. The function of HR analytics is to provide information to an organization with valid and vital points which helps in managing people and helping to achieve business goals efficiently, thus empowering it.

Problem Statement

The researcher has proposed the study on "Role of HR Analytics in Empowering the Organizations" with respect to various reputed organisations having a global presence. A limited explorative study has been conducted to answer the question Can HR Analytics empower Organizations?

The objectives of the Research were:

1. To detect the need of Analytics in the Human Resource System in the competitive milieu.

2. To explore the role played by HR Analytics in giving competitive edge to the organization.

Literature Review

HR Analytics literature has reviewed in this section and status of HR Analytics checked in context of organization performance. The literature depicts that HR Analytics has mixed impact or reaction to the organizational performance. This has been elaborated in this section of the paper. Current business analytics field are identified that are the issues of machine learning, data mining, social media and cloud which was found by Jalali and Park(2017). In the BA domain it has been visualized that a network analysis of the flow of collaborations among countries exists. Davenport, Harris, and Shapiro (2010), has explored that almost every company values employee engagement. In today's era the purpose of using analytics in companies is to hold itself accountable for the various things which are associated with its staff as they knows happier and healthier employees create better-satisfied guests. Also if they want to perform better and expects better performance from their top management which is their greatest asset and largest expense. They probably do well to favour analytics over their gut instincts. This is also stated by Muscalu E & Serban A (2017) that is became a necessity to align HR and organizational strategies for competitive advantage, more and more organizations considering the HR department a value-added business partner. As argued by Levenson ,A (2011), that analytics in the HR function on to this point has been treated as unusual competency, which has to be applied often by various specialists residing in center of excellence than he large mass of generalists who do the bulk of the day-to-day work in HR. Aral, Brynjolfsson and Wu (2012) explored that various practices are mutually correlated such

<u>Дистанційна освіта в Україні: інноваційні, нормативно-правові, педагогічні аспекти</u>

as HCM, Performance pay and HR analytics. HR analytics and performance pay as a set of organizational practices that complements HCM. It was elaborated by Momin & Mishra (2015), that to have competitive edge on the competitors, organizations must use the HR analytics for the accuracy in the data and the real time information. Work force planning can be done easily and also helps in analysing every aspect of the HR matrices by using HR Analytics. . It is also found that there is a consensus in regards to the importance for HR analytics in organizations and that the HR analytical skills challenge is the main hindrance to implementation. It is required that HR transforms itself while ensuring that the required skills from higher education sector must be attracted and also capacitate HR practitioners in numeracy and metrics, so that the concept of HR Analytics can be fully incorporate in the all levels of the HR process. Molefe (2013) very well said that the future of the HR analytics is that this field will continue to grow within organizations. The process of HR analytics is very straight forward and the purpose to use it to gain competitive advantage in the Industry. It is the peak time for HR managers to start focusing on business outcomes and must focus to improve employee engagement score or increase participation rates on their initiatives. According to Mondore et al. (2011), to make HR a strategic function in any organization proper implementation is the key initiative. According to Manuja & Ghosh (2014), the requirement of human resources was viewed as a strategic collaborative partner affecting outcome of the business. Analytics of raw data to useful information is covered under analytics which also covers the data generation, storage and conversions. It is however critical that HR analytics has an Integrated Approach. It implies pulling in multiple HR processes to tackle strategic issues, e.g. in succession planning using HR analytics, the components of performance evaluation, analysis of input and output from trainings, engagement of the employee in terms of contribution, efficiency, effectiveness etc. should all be factored in a clinical and systematic manner. It has been argued that how analytics can operate in a data driven way but it has the advantage that it can be learn from what marketing went through those early years. It is never be a simple step for some or many HR functions, a data driven approach for decision making has potential for HR to add, which further add more value to business (Fairhurst, 2014). To survive in the long run, Industries need to possess predictive analytics from Human Resource management. The usefulness of predictive analytics is wider and hence application in all related areas of HRM is essential. HRPA helps organizations in optimizing business performance as well as employee engagement and satisfaction. HRPA is a growing and very fast changing technology which has 100% accuracy in decision making for HR (Mishra et al., 2016). According to Bassi (2011), Elevating the status of the HR profession and it is a source of competitive advantage for organizations that put it to good use which is hold by HR analytics. There are various reason for HR analytics is to improve individual and organizational performance not to prove the worth of HR (Sharma, Mithas and Kankanhalli 2014), it is also found that the business analytics can help on improve quality of decisions. However, it is not clear if business analytics can be used to improve the acceptance of decision in any way. The insight generation and decision making processes associated with the use of business analytics which is suggested by anecdotal research which often do not involve key stakeholders from functional areas who all will be responsible for implementing those decisions. It was found that it is never being accepted in the organizations on acceptance of HR analytics. To have that acceptant top management need to convince effectively to all in the organization. Ramanathan, Philpott, Duan and Cao (2017) attempted to explain that on the basis of their analysis, they have Tornatzky and Fleischer (TOE) elements in the context of BA that have significant influence on BA adoption. They have come up with these findings that BA Adoption will help and influence environmental performance positively, level of adoption of BA moderates the link between BA adoption and performance, level of integration between IT and business strategies moderates the link between BA adoption and performance, trust in BA systems moderates the link between BA adoption and performance. The major factor accepting HR analytics in the organization includes in the Analytical skill of an individual. HR Analytics was applied majorly big organizations and training and top management support was the few factors which led to the acceptance of HR Analytics. According to George,L and Kamalanabhan,TJ

II Всеукраїнська науково-практична конференція за міжнародною участю 12 травня 2021 року

(2016) the acceptance of HR analytics will be more if the technology adopted for analytics is user friendly. Gardner, McGranahan, and Wolf (2011), in their article have argued that HR analytics increases the value of organization. When human-resources and business leaders work together to address the root causes of problems and to pilot new ways of solving them, HR analytics succeeds at the same moment. The development of an intelligent business analytics platform is helpful to organisation. The main purpose of the platform was to create such software environment where the latest algorithms and architecture developed within industrial or academic research can be incorporated efficiently into real business applications. Two applications were implemented such as ITEMS (Intelligent Travel Time Estimation and Management System) and DecTOP (Decision Table Optimization). There are two related term HR matrix and HR analytics (Azvine, et al. 2003). Lawler, Levenson and Boudreau (2004) have distinguished 'HR Analytics' as separate from 'HR metrics'. HR metrics are measures of key HRM outcomes, classified as efficiency, effectiveness or impact while HR analytics are not measures but rather represent statistical techniques and experimental approaches that can be used to show the impact of HR activities. Research shows that top performing companies are three times more likely to be advanced users of workforce analytics than lower-performing companies. This indicates that the power of workforce analytics is the core driver of an organisations success (LaValle, et al. 2011). It has been discussed in current scenario that the latest emerging fads is a paradox in itself which is HR analytics. It is predicted that HR analytics will definitely be failed initially but later will definitely add the value to the organization because there is lack of analytics in the HR departments. The theory based academics started their human capital work with a theory they were testing not with a deep understanding of business challenges. Chief human resource officers with a clear business focus are still few and far-between .A journalistic approach to HR analytics will not be able to add value. Remember the "human" in human resources is more important than anything. There must be training to HR people to have an analytical mind-set to achieve goals by using HR analytics. There are probable results of HR analytics if it will not executed effectively and with proper planning and implementation (Ulrich ,D & Rasmussen,T 2015). Pape (2016) in his article have concluded that the popularity of business analytic solutions is expected to continue to grow in industry and academia over the next years. A more systematic understanding of the benefits and costs associated with creating new data items for business analytics is likely to play a role in this development.

Research Methodology

A thorough and wide exploratory search of existing literature was directed on an assortment of online databases to deliver an inclusive list of journal articles. After which the companies practising, HR Analytics were identified, and have been presented in the following paper. Google Scholar was also used to select studies that comprised any of the underneath stated key terms. The online databases used were, Emerald Management, Taylor and Francis, and other related articles have been referred to. The key words used for reaching out the included articles for this paper from among the various journals are: "HR Analytics, Workforce Analytics, Human Resource Analytics, HR Metrics, Scorecard, Predictive Modelling, and Employee Engagement". Emphasis was also made on the various tools generally used in HR Analytics such as Predictive Modelling, LAMP Model, HR Scorecards etc during the research.

Design/Methodology-Prevailing literature was collated to draw inferences regarding the performance of organizations that are employing HR Analytics. The business outcomes using predictive data analytics specifically of people function for evidence based decision making was also analysed.

Findings and Discussion

It has been observed that the progression of information Technology (IT)and its extensiveness is the reality of the current times. People in the IT connected world often leave a trail of data. Organisations have realised the fact that, they can use the data to their advantage with the presence of the ever evolving and sophisticated technology. Thus, this particular sentiment has witnessed the rise of analytics being applied in the various organisations. This research paper has analysed such organisations given below, who have been early adopters of the concept of HR

Дистанційна освіта в Україні: інноваційні, нормативно-правові, педагогічні аспекти

Analytics and who have been successful in gaining a competitive edge using the same, thus empowering themselves.

1. Credit Suisse

Credit Suisse Group AG is a global wealth manager, investment bank and financial services firm founded and based in Switzerland. Headquartered in Zürich, it maintains offices in all major financial centers around the world and is one of the nine global "Bulge Bracket" banks providing services in investment banking, private banking, asset management, and shared services. Credit Suisse is known for its strict bank–client confidentiality and banking secrecy practices.(Credit Suisse, 2021).

The **rate of attrition/employee turnover**, always a major obstacle for any organization was successfully arrested by Credit Suisse by deploying Predictive HR analytics using an algorithm that tells the Boss Who Might Quit. Credit Suisse was able to predict who might quit the company and can be termed as one of the first examples of the now very popular employee churn analytics.

The Various characteristics of employees analysed for the said purpose were salary raises, promotions, life events, manager performance, and team size impact attrition and Using the said data, analysts at Credit Suisse were able to predict who might exit the company and also the rationale behind such decisions. Result of the analysis was provided anonymously to managers so they could reduce turnover risk and retain their people better. In addition, managers were skilled to retain the high performing employees who had a high risk of leaving the organization. In total, this program saved Credit Suisse approximately \$ 70,000,000 a year.

Here three aspects are worth mentioning: 1) while analysing the employee data ,Credit Suisse could identify employees whose morale is low and 2) Train the managers/supervisors to develop better relationships with their team members 3) developing a new culture of growth by internal promotions instilling higher loyalty. Hence Skilling and re-skilling takes place and simultaneously helps to motivate employees who might have not disclosed their discontent in open.

The financial impact of using HR Analytics was found to be a one-point reduction in unwanted attrition rate which saves the bank \$75 million to \$100 million a year.

Tuble I mor minuge of the Turumeters and Dubmess Gouls		
	HR Parameters Involved	Business Indices Involved
	Employee Turnover Training and Development Employee Relations	Financial Savings Goodwill as an employer of choice

2. E.ON

E.ON SE is a European electric utility company based in Essen, Germany. It runs one of the world's largest investor-owned electric utility service providers. The company is a component of the Euro Stoxx 50 stock market index, DAX stock index and a member of the Dow Jones Global Titans 50 index. (E.ON, 2021).

Absenteeism at work is a term which gives the HR Executives an outlandish feeling. E.ON has been scouting for various strategies to tackle employee absenteeism for long, but the unusual patterns of absenteeism among employees were negating the efforts of the HR Team to generalise the reasons. With strength of 50000 plus employees world-wide it was always an improbable task without modern tools.

HR Analytics was adopted when absenteeism went well beyond specified bench marks. Based on statistical data derived from employee attendance records, analysts formulated 55 hypotheses, tested 21 of them and validated 11.

The major finding arrived by the analysts studying the evaluated data for quantified set of patterns was that selling back untaken holiday did not increase absenteeism and the main reason was a lack of a long holiday somewhere during the year, or not taking a day or two once in a while during the year. This insight was communicated to line managers to improve holiday approval policies of E.ON enabling the employees to take an intermittent break, revitalise themselves and get back to work invigorated. The parameters involved in HR and Business angles are as below.

Table 2-Inter linkage of HR Parameters and Business Goals		
HR Parameters Involved	Business Indices Involved	
Employee Absenteeism	Financial Savings on account of reducing	
Leave approval policy	employee absenteeism.	
Employee Relations	Goodwill as an employer who offers flexibility in	
	work schedules	

3. Clarks

C. & J. Clark International Ltd, trading as Clarks, is a British-based, international shoe manufacturer and retailer. The company has over 1,000 branded stores and franchises around the world and also sells through third-party distribution. (Clarks, 2021).

Clarks were facing a peculiar situation of employee engagement on above average levels but the Returns to be much lower? These paradoxes lead them to analysing the employee engagement levels within the organization ultimately with the aim of finding out the causal relationship between employee engagement especially at higher levels and financial performance in terms of business volume.

The analytics team deployed, worked with the statistical data of the distribution planning structure of Clarks and did a detailed analysis of around 450 data points of the business performance. Analysis showed that there existed a positive correlation between Employee engagement and the business performance. The relation in quantitative terms was arrived as under:

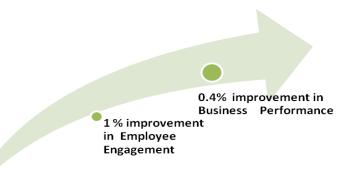


Figure-1-Directly proportional Relationship derived after employing HR Analytics

Further elaborate studies were held to arrive at more logical conclusions by identifying 100 features of best performing stores of Clarks and analysing them both quantitatively and qualitatively. The Analysis found that every store had an optimum team size and the length of service a Manager spends in a store is a significant factor directly proportional to the performance of that store in business value. Frequent transfers/switching of Store Managers results in a declined performance of the store.

The insights gained from HR Analytics helped Clarks to make designs for stores which are high performers and also to develop a customised engagement toolkit that can be used by store managers to improve performance.

This has resulted in Clarks out-performing the business volumes to rise above the set targets and benchmarks year after year simultaneously growing the Market Share.

Table 3-Inter linkage of HR Parameters and Business Goals		
HR Parameters Involved	Business Indices Involved	
Employee Engagement Training and Development Employee Loyalty	Increased Business Volumes Growth in Market Share	

4. Cisco.

Cisco Systems, Inc. is an American multinational technology conglomerate headquartered in San Jose, California, in the center of Silicon Valley. Cisco develops, manufactures and sells networking hardware, software, telecommunications equipment and other high-technology services and products. Through its numerous acquired subsidiaries, such as OpenDNS, Webex, Jabber and Jasper, Cisco specializes in specific tech markets, such as the Internet of Things (IoT), domain security and energy management. Cisco is incorporated in California. (Cisco, 2021).

Дистанційна освіта в Україні: інноваційні, нормативно-правові, педагогічні аспекти

Cisco was on the lookout for expanding its geographical presence, but identifying the locations where there is ready availability of skilled resources in a cost effective manner combined with other factors like rental rates of office space, less competition from similar organizations etc were the limiting factors.

To overcome the challenge Cisco resorted to HR Analytics using customised software which used demographic data where in the various parameters such as availability of talented graduates with required skill sets from reputed universities, cost effective office spaces, absence of major competitors etc. to arrive at evidence based decisions. Cisco was able to identify such locations which met the set criteria and open new offices which helped them expand, fulfilling their business goals without compromising on the envisioned circumstances. The parameters involved in HR and Business angles are as below.

HR Parameters Involved	Business Indices Involved
Recruitment Availability of Talent Pool	Financial Savings due toless competition, recruitment costs, lower employee benefits and Cost effective office spaces

Table 4-Inter linkage of HR Parameters and Business Goals

5. Microsoft

Microsoft Corporation is an American multinational technology company with headquarters in Redmond, Washington. It develops, manufactures, licenses, supports, and sells computer software, consumer electronics, personal computers, and related services. Its best known software products are the Microsoft Windows line of operating systems, the Microsoft Office suite, and the Internet Explorer and Edge web browsers. Its flagship hardware products are the Xbox video game consoles and the Microsoft Surface line up of touch screen personal computers. Microsoft is ranked No. 21 in the 2020 Fortune 500 rankings of the largest United States corporations by total revenue. (Microsoft, 2021).

The Australian subsidiary of Microsoft was confronted with a challenge in 2018: Front- Line Managers who drive the sales felt that they have deviated from managing their teams to Managing the process which in turn impedes the high value activities they needed to perform, ie, enabling sales development by fostering more customer centric relationships. (Worrall, S, 2019) As the organization was going through a phase of transformation from computing to cloud based technology which in turn changed the sales model from licensing to subscription, it became inevitable to comprehend the functioning of a sales teams in-depth. Time Management of the Front-line Managers of sales teams thus became the most important criteria to be analysed based on which necessary adjustments can be made to develop a sprightly team to augment sales.

Management deployed Microsoft's own Workplace Analytics (WpA) product, an analytical tool that analyzes metadata from daily work to categorize a set of powerful, customizable, and objective metrics that describe how work gets done. Behavioural analytics done by Workplace Analytics divulged specific inefficient patterns of behaviour such as meetings scheduled with an inaccurate or inappropriate list of attendees, redundant meetings covering the same or similar agenda items, and an overabundance of time spent preparing for those meetings .The two significant statistical data evolved as follows,

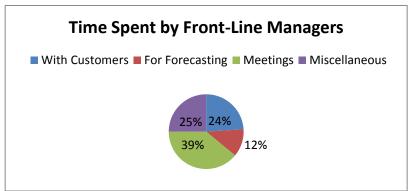


Figure-2-Time Spent by Front-Line Managers before Stream lining Operations

<u>II Всеукраїнська науково-практична конференція за міжнародною участю 12 травня 2021 року</u>

Based on the above data necessary changes were incorporated and the Front-Line Managers were able to re-allocate their time for coaching and mentoring their teams and also on Customer centric activities. The increased re-allocation of time on high value activities which generated better business outcomes were as below:

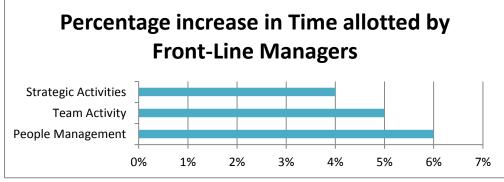


Figure-3-Increase in Time Spent by Front-Line Managers after Stream lining Operations

The above process was appreciated by the Management of Microsoft as the time saved empowered the Front-Line Managers to implement their leader ship skills, transcend their knowledge and coach their teams to better sales outcomes. The model is iterative in nature and is continually followed.

Table 5-Inter linkage of HR Parameters and Business Goals		
HR Parameters Involved	Business Indices Involved	
Coaching and Mentoring Time Management Employee Development	Better Sales Outcomes More streamlined Operations Improvement of Organizational Culture	

6. Royal Dutch Shell

Royal Dutch Shell, commonly known as Shell, is a British–Dutch multinational oil and gas company headquartered in The Hague, Netherlands and incorporated in the United Kingdom as a public limited company (PLC). It is one of the oil and gas "supermajors" and the fifth-largest company in the world measured by 2020 revenues (and the largest based in Europe). In the 2020 ForbeT Global 2000, Royal Dutch Shell was ranked as the 21st-largest public company in the world. (Royal Dutch Shell,2021)

The classical example of data mining which eventually turned out to be 'Gold Mining' is attributed to Shell. The company had vast pools of un-analysed data within their data bases. One particular segment the company took note was the 'innovative ideas' segment which emanated from around 1400 employees over a period of many years.

Shell devised a unique approach to make use of the data by creating tailor made Video Games developed by experts in various domains like data scientists, psychologists and neuro scientists. The outcomes of the video games played by the employees were designed in an effective manner to measure their potential. The outputs from the games were collated and analysed using home-grown HR Analytics software with comparisons of real-world scenarios. This simulation helped in identifying employees who gave the best ideas which has a high success rate. Further analysis of such employees helped Shell in classifying three major traits such as social intelligence, implicit learning and industriousness. This also helps in the recruitment decisions also.

Shell till date is continually concentrating on Ideas/Suggestions from employees and incorporate them to progress their business outcomes. The benefits derived from these aspects are as follows,

Table 6-Inter linkage of HR Parameters and Business Goals		
HR Parameters Involved	Business Indices Involved	
Recruitment Employee Participation	Better Business Outcomes	

e IID D

<u>Дистанційна освіта в Україні: інноваційні, нормативно-правові, педагогічні аспекти</u>

The above findings from the six case studies indicates that applying HR Analytics gives better business outcomes to the organizations which in turn also provides a competitive edge by adopting evidence based decision making. Certain scenarios depicted also provide ample scope for adopting the analytical approach using the HR parameters that have a positive relationship with business goals of an organization, which may not appear on surface. This study is also in conformity with the previous researches in this topic. The subtle characteristics of an organization can also be quantified and analysed was identified in this study. The below given graph which is part of a new market research report predicts that the HR analytics market is expected to grow from USD 1.9 billion in 2019 to USD 3.6 billion by 2024, at a Compound Annual Growth Rate (CAGR) of 13.7% during the forecast period.

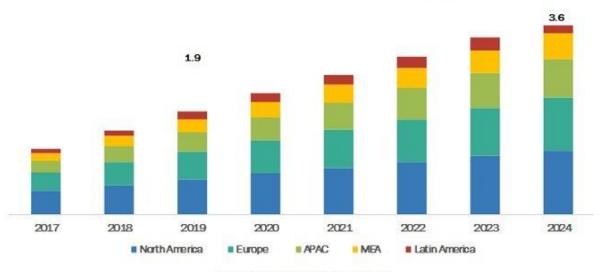




Figure-4-The potential growth of HR Analytics (Markets and Markets Analysis, 2019) The above figures act as harbinger of recognising the need and embracing HR analytics in the days to come.

Conclusion

HR analytics is an area vast expanding and needs to be explored in HR Vertical. Decision being the most critical aspect regarding the success of any organization needs much probing and critical observation of past events to make an accurate decision. HR analytics is a tool to make evidence based decisions specifically related to people function of the organisation. This study has been done to comprehend the HR analytics and explore its relation with the performance of organisation. It revealed that adopting HR Analytics improves the performance of organizations by empowering them with evidence based decision making along with providing a competitive edge. The companies who have adopted the concept of HR analytics have made significant business gains and have systematically progressed from traditional reporting to analytics. The process also involves descriptive, predictive and prescriptive analysis of data. The study also helped to realise non-uniformity in applying HR analytics and with the help of this findings future course of action can be decided and appropriate model can be proposed to explore various dimensions of HR analytics. The existing literature shows that analytics is in line with data and business. There is also a major shift in the focus to exploit the opportunities available and to see off the threats before encountering them. However more elaborate studies are required to explore HR analytics and how it affects the performance of an organisation, as the concept has a long way to go in order to play a significant role in strategy development and policy making. There are future opportunities for conducting research on HR analytics in many organisations in domains such as IT, Telecom, Manufacturing, Banking, Hospitality so on. In these studies the impact of HR analytics may be done on organisations having a global

Source: MarketsandMarkets Analysis

footprint and how analytics has aided the business outcomes. Scale of the study may be big or small depends on nature of the study. Big sample size can be used in future studies so that findings of the study can be generalized.

Limitations of Research – conducting study on the basis of secondary sources has limitations such as: The data can be vague which cannot be used to draw any conclusion and Author of the paper has lack of control over data quality used for this study.

References

1. Angrave, D., Charlwood, A., Kirkpatrick, I., Lawrence, M., & Stuart, M.(2016). HR and analytics: why HR is set to fail the big data challenge. *Human Resource Management Journal*, 26(1), 1-11.

2. Aral, S., Brynjolfsson, E., & Wu, L.(2012). Three-way complementarities: Performance pay, human resource analytics, and information technology. *Management Science*, 58(5), 913-931.

3. Azvine, B., Nauck, D., & Ho, C.(2003).Intelligent business analytics — a tool to build decision-support systems for e Businesses. *BT Technology Journal* • Vol 21 (4),65-71

4. Barnard, C .(1938). The Functions of the Executive, Harvard University Press, Massachusetts, 1-4

5. Bassi, L. (2011). Raging debates in HR analytics. People and Strategy, 34(2), 14.

6. Cisco.(2021).Cisco company webpage. Retrieved on 21.12.2020 from: https://www.cisco.com/c/en/us/index.html

7. Clarks. (2021). Clarks company webpage. Retrieved on 21.12.2020 from: https://www.clarks.in

8. Credit Suisse. (2021). Credit Suisse company webpage. Retrieved on 21.12.2020 from: https://www.credit-suisse.com/in/en.html

9. CRIEPI Report.(2016).Management and Organizational Strategies of Utility Companies – Experiences and Lessons in Foreign Utility Companies. Retrieved on 21.12.2020 from: https://criepi.denken.or.jp/en/publications/annual/index.html

10. Davenport, T. H., Harris, J., & Shapiro, J., (2010).Competing on talent analytics. *Harvard Business Review*, 88(10), 52-58.

11. Dooren, J.(2012), HR Analytics in Practice, Master Thesis. Retrieved on 2.10.2020 from: http://.arno.uvt.nl/show.cgi?fid=127276

12. Dzimbiri,L. B.(2009). Organisation and Management Theories: an African Focus: Integrating Structure, People, Processes and the Environment for Human Happiness. Retrieved on 01.06.2020 from: https://cuvillier.de/uploads/preview/public_file/2597/9783867278348.pdf

13. E.ON.(2021).E.ON company webpage. Retrieved on 21.12.2020 from: https://www.eon.com/en.html

14. Etzioni, A.(1958).Industrial Sociology: The Study of Economic Organizations.Retrieved on 26.09.2020 from: http://researchgate.net/313973752

15. Fairhurst, P.(2014). Big data and HR analytics. IES Perspectives on HR, 2014, 7-13.

16. Gardner, N., McGranahan, D., & Wolf, W.(2011). Question for your HR chief: Are we using our 'people data'to create value?. McKinsey Quarterly, 2, 117-121

17. George, L & Kamalanabhan , TJ. (2016). A Study on the Acceptance of HR Analytics in Organisations. *International Journal of Innovative Research & Development*, 5(2), 1-5

18. Hargrove, C.(1915). Organisation. *Charity Organisation Review*,37(217), new series, 30-36. Retrieved on 2.10.2020 from: http://www.jstor.org/stable/43789467

19. HR Analytics Case Studies with Business Impact. Retrieved on 25.10.2020 from: https://www.analyticsinhr.com/blog/hr-analytics-case-studies

20. HR Analytics Market by Component, Application Area (Workforce Management, Recruitment, and Employee Development), Organization Size, Deployment Type, Vertical (BFSI, Manufacturing, and IT and Telecom), and Region – Global Forecast to 2024. (2019).Retrieved on 21.12.2020 from: https://www.marketsandmarkets.com/Market-Reports/hr-analytics-market-94472004.html

<u>Дистанційна освіта в Україні: інноваційні, нормативно-правові, педагогічні аспекти</u>

21. HR Open Source Case Studies (2017).Retrieved on 2.10.2020 from: https://hros.co/case-studies

22. Jalali, S. M. J., & Park, H. W.(2017). State of the art in business analytics: themes and collaborations.

Retrievedon30.10.2020from:https://search.proquest.com/openview/44231e00f2ac386145e10f64d1c e5d0d/1?pq-rigsite=gscholar&cbl=54128

23. Steve, L, Lesser, E, Shockley, R, Hopkins, M & Kruschwitz, N. (2011). Big Data Analytics and the path from Insights to Value. *MIT Sloan Management Review*, 52(2), 1-14

24. Lawler, E. E., Levenson, A. R., & Boudreau, J.W. (2004). HR metrics and analytics: Use and impact. *People and Strategy*, 27(4), 27.

25. Levenson, A.(2011). Using targeted analytics to improve talent decisions. *People and Strategy*, 34(2), 34.

26. Manuja, S. & Ghosh, O.(2014).Strategic Workforce Planning- Impact of HR Metrics and Business Analytics Article of human resources. Retrieved on 2.10.2020 from: http://www.mbaskool.com/business-articles/humanresource/10149-strategic-workforce-planningimpact-ofhr-metrics-and-business-analytics.html

27. March, G. & Simon, H. (1964). Organisations. New York: Wiley

28. Microsoft.(2021).Microsoft company webpage. Retrieved on 21.12.2020 from: https://www.microsoft.com

29. Mishra, S. N., Lama, D. R., & Pal, Y.(2016). Human Resource Predictive Analytics (HRPA) for HR Management in Organizations. *International Journal of Scientific & Technology Research*, 5(5),1-5

30. Molefe, M. (2013). From data to insights: HR analytics in organisations. Retrieved on 26.09.2020. from: http://researchgate.net/publication/314207081

31. Momin, W. Y. M., & Mishra, K. (2015).HR Analytics as a Strategic Workforce Planning.*IJAR*, 1(4), 258-260.

32. Mondore, S., Douthitt, S., & Carson, M.(2011). Maximizing the impact and effectiveness of HR analytics to drive business out comes. *People and Strategy*, 34(2), 20.

33. Muscalu,E., & Serban,A.(2014).HR Analytics for Strategic Human Resource Management *Proceedings of the International Management Conference*,8(1), 939-943.Faculty of Management, Academy of Economic Studies, Bucharest, Romania.

34. Pape T.(2016).Prioritising data items for business analytics: Framework and application to human resources. *European Journal of Operational Research*, 252, 687–698

35. Pareek, U (1997). Evaluating Human Resource Development (1997), Jaipur: Jaipur Research Foundation

36. Ramanathan, R., Philpott E., Duan Y., & Cao, G. (2017). Adoption of business analytics and impact on performance: a qualitative study in retail. *Production Planning & Control*, 28(S), 11–12, 985–998

37. Royal Dutch Shell. (2021). Royal Dutch Shell company webpage. Retrieved on 21.12.2020 from: https://www.shell.com

38. Sharma, R., Mithas S., &Kankanhalli,A.(2014). Transforming decision-making processes: a research agenda for understanding the impact of business analytics on organisations. *European Journal of Information Systems*, 3, 433–441

39. Singh, K. (2000). Effect of Human Resources Management (HRM) Practices on Firm Performance in India. *Indian Journal of Industrial Relations*, 36(1), 1-23. Retrieved on 21.12.2020from: http://www.jstor.org/stable/27767694

40. Ulrich ,D., & Rasmussen, T. (2015). Learning from practice: how HR analytics avoids being a management fad. *Organizational Dynamics*, 44, 236–242

41. Worrall, S.(2019). Case study: Data-driven insights help sales managers spend more time empowering teams to succeed. Retrieved on 21.12.2020from:https://insights.office.com/sales-excellence/case-study-data-driven-insights-help-sales-managers-spend-more-time-empowering-their-teams-to-succeed