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Analysis of Impact of HR Analytics on Decision Making Ability of HR Professionals

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ABSTRACT

HR is the strategic approach to the effective management of people in a company or organization such that they help their business gain a competitive advantage. It is designed to maximize employee performance in service of an employer's strategic objectives. Analytics is the systematic computational analysis of data or statistics. It is used for the discovery, interpretation, and communication of meaningful patterns in data. HR analytics is the process of collecting and analyzing Human Resource (HR) data in order to improve an organization's workforce performance. This research is done in with the primary objective to know the use and awareness of HR Analytics tools in Manufacturing and IT companies basically located in Pune and PCMC area, India. For this research 63 companies were selected by convenience sampling method and well structured questionnaire was administered. The research is of exploratory in nature and direct qualitative techniques are used to gather data. These techniques include interviews and analysis of various case studies. Analysis has been done by using the responses received from the respondents and the information gathered from case studies.

It is concluded that HR analytics is now like backbone of strategic decision taking. Analytics helps in quantification of data which was previously a very difficult task for HR professionals. Even though it is reality now, it has still long time to gain its popularity in every industry and at every level of organization. With the current scenario in IT and manufacturing industry it is only adding value when it comes to decision making. It is not seen as a constraint by HR professionals that it will hamper their intuitive ability, decision making ability.

Keywords – *HR, Analytics, Decision Making, Tools, Manufacturing Industry, IT Industry*

Introduction:

Human resources are having characteristic of people-oriented. People who generally considered HR work as only limited to recruiting resources and giving them offer letter, HR analytics may prove such people wrong. When used strategically, HR Analytics can transform the way HR works, giving the team feedback and encouraging it to be involved and meaningful information from raw, unstructured data.

Among the critical business areas, there is lots of analysis that has already been made in the area of Finance, Supply Chain management, Marketing, Research & Development, but still there is a lagging in the analysis of data about their employees. Businesses have to deal with a changing world of work (Guest, 2004). There can be much smoother flow of relationship between employer & employees and the productivity of each employee can be measured, this can happen with the effective adoption of analytics in the field of human resources department.

HR analytics is the process of collecting and analyzing Human Resource (HR) data in order to improve an organization's workforce performance. The process can also be referred to as talent analytics, people analytics, or even workforce analytics. This method of data analysis takes data

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that is routinely collected by HR and correlates it to HR and organizational objectives. Doing so provides measured evidence of how HR initiatives are contributing to the organization's goals and strategies.

As defined by Collins, "HR analytics is a framework for gaining insights into how investments in human capital assets lead to the performance of four key outcomes: (a) revenue generation, (b) expense minimisation, (c) risk mitigation, and (d) implementation of strategic plans. This is achieved by applying statistical methods to comprehensive human resources, talent management, financial and operational data."

Considering the increasing popularity of HR analytics this research discusses whether HR analytics affects decision making ability of HR professionals or it adds value to the decisions.

Objectives:

I. Primary Objective:

- To study different types, tools and extent of HR analytics in Manufacturing and IT industry.

II. Secondary Objective:

- To explore the impact of HR analytics on decision making ability of HR professionals

Scope and Limitations of the Study:

The scope of research is to get knowledge about HR analytics, its benefits, its types and tools used in practice in IT and Manufacturing industry. This study has been conducted to study HR Analytics and to examine whether HR analytics affects decision making ability of HR professionals or it adds value to the decisions taken by HR. The scope of the study is limited to some of the Manufacturing and IT companies located in Pune and PCMC area.

The scope and limitation of the study are highlighted as follows:

1. The geographical area for the study is Pune. The selected Manufacturing and IT companies spread over the different areas of Pune are considered for the study.
2. Only a handful of Manufacturing and IT companies are considered and the information has been gathered from the HR Managers / HR Heads/ Talent Acquisition Executives working with these companies over the phone or by face to face and telephonic interaction.

Need of the Study:

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Most of the organizations collect data in its various processes and mostly this data is in unstructured format. Unfortunately, unstructured data on its own cannot provide useful insights. It would be big spreadsheets having full of numbers and words. If this data is not properly structured or organized then it is meaningless. Once this data is organized, compared and analyzed, this data is meaningful and provides useful insights for Organizations.

Structures data can provide answer to questions like:

- What patterns can be revealed in employee turnover?
- How long does it take to hire employees?
- What amount of investment is needed to get employees up to a fully productive speed?
- Which of our employees are most likely to leave within the year?
- Are learning and development initiatives having an impact on employee performance?

Data with proper evidence helps organizations to make necessary improvements in it processes and plan the future activities in better ways. By using this structured data organization can take decisions on the basis of facts and figures. Here, HR Analytics plays a vital role of sturuturing data in an organize way and creating reports in required formats which helps HR Executives to take a quick decisions.

Background of the Study:

HR Analytics can be described as "A methodology for understanding and evaluating the causal relationship between HR activities and organizational performance outcomes (such as customer satisfaction, sales or profit) and for providing valid and accurate human capital decisions with the goal of influencing business strategy and performance, using statistical techniques."

Types of HR analytics:

1. Descriptive analytics:

Traditional HR metrics are known as efficiency metrics (turnover rate, filling time, recruitment and selection costs, employment and employed numbers, etc.). The main aim of efficiency metrics are reducing the costs and enhancing the organization processes. Descriptive HR analytics expose and explain connections and trends of current and historical data. That is the basis of your success in analytics.

This type of analytics also known as business reporting provides an interpretation and extrapolation of historical data to understand the major change in the company and provide insight into the past event. Its main result is making the raw data understandable for the various components of the company (managers, investors, and other stakeholders), this allows the company to answer the questions of "what happened" or "what happening" like:

a) How many products have been delivered last months?
b) What is the average sales volume for the last month?
c) What is the rate of the products returned for last month?

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This analytics type uses many techniques and tools such as data mining, and data aggregation to provide information and creates a summary of historical data and prepare it for further processing in order to provide insights and predictions that can help to understand why and how some event happened and explain why some results occur, all while trying to improve employee engagement and productivity.

2. Predictive analytics:

Predictive analysis involves a range of methods (statistics, modeling, data mining), using current and historical evidence to forecast the future. It's about probability and effects.

HR experts use this type to deploy future business planning to predict the problems before they occur, discover new services and more opportunities to reduce time, increase productivity and minimize risks. Its major outcome is to answer the question of "what will happen? "or " why will it happen? "

Examples:
a) Who is the most likely employee to leave our organization?
b) What is the risk of losing on new project investment?
c) What will be the revenue if sales service decreases by X percent?

By answering these questions, the company explores the results to find new patterns and relationships to improve their performance through its various business areas, operations, finance, and marketing

3. Prescriptive analytics:

Prescriptive analytics goes beyond forecasts and provides strategies for decision making and optimization of the workforce. It is used to evaluate complex data to predict results, to provide alternatives for decision making and to illustrate alternative market impacts.

Prescriptive analytics uses sophisticated tools and technologies, like machine learning, business rules, and algorithm. It answers the question of "what I should do?" and/or "why should I do it?"

Table 1: HR Analytics Tools/Softwares in Practice

Sr. No.	Tool/ Software	Description
1	R	R is the most used HR analytics tool. R is great for statistical analysis and visualization and is well-suited to explore massive data sets. It enables you to analyze and clean data sets with millions of rows of data. Since it is open source, it is cost effective and easily available

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2	Excel	The most basic and capable tool for beginners in analytics. Whenever you manually extract data from any of your HR systems, it most likely comes out in the form of a comma-separated value (CSV) file. These files can easily be opened and edited using Excel. The good thing about Excel is that it's very intuitive to most of us HR data geeks and therefore easy to use.
3	Tableau	Tableau is very similar to Power BI in that it enables the aggregation and visualization of various data sources. Founded in 2003 as a commercial outlet for research produced at Stanford University, the software has taken the visualization world by storm.
4	SPSS	SPSS is one of the oldest and widely used HR analytics tools in the social sciences. Thanks to its user-friendly interface, you're able to analyse data without having extensive statistical knowledge. Because SPSS is often used in the social sciences, a lot of HR professionals know how to use it – especially the ones interested in data analysis.

Research Methodology:

The main strategy behind conducting this research is to approach HR professionals working at strategic level and tactical level from IT and manufacturing industry, discuss with them regarding the current scenario in organisation, analytics tool/softwares they are using, and their opinion about future of analytics and how it helps in decision making. The aim was not approach many people but to approach few qualified, trusted and approachable ones, to get the more accurate insights.

Research Design:

The research employed was a qualitative approach and conducted in an exploratory way to examine the impact of HR analytics on Decision Making ability of HR Professionals in IT and Manufacturing organizations in Pune and PCMC area. The main focus of this research was to gain insights from HR professionals. Face to face and telephonic conversation in the form of interview helped to get real time responses from industry people in more accurate and unbiased form**.**

A. Sample Design:

1. **Sample Universe:** HR professionals working in IT and Manufacturing organizations working at Strategic and Tactical level in the world

2. **Sample Population:** HR professionals working in IT and Manufacturing organizations working at Strategic and Tactical level located in Pune and PCMC area.

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3. **Sampling Method:** Non Probability Convenient sampling technique was used which gives the researcher the convenience of selecting the sample from the population. The selection of sample unit was based on existing and acquired knowledge of HR professionals. Designation, work experience of sample unit was considered while selecting the samples.

4. **Sample Size:** 125 HR professionals were approached for interview out of which 63 genuine responses were received.

5. **Data Collection:**

(I) Primary Data: For collecting primary data, 63 respondents were nominated representing the population. The primary source of data was administered through a structured interview which was conducted face to face and telephonic with HR professionals of IT and Manufacturing organizations. The questions were open ended, as the open ended questions provide more flexibility. This technique helped to generate further questions to get detail information. The interview was conducted more like a discussion to get unbiased real time responses and opinions.

(II) Secondary Data: Secondary data was used to understand the topic in detail and to study and get information from previous researches. This helped in finding the scope of HR analytics in IT and in Manufacturing organizations. Reading and analysing case studies on different types of analytics, its benefited to understand the current scenario in the industry. Case studies on companies like Google and Microsoft on how they are integrating HR analytics strategically, helped to understand the expansion of HR analytics in future. For the secondary data following tools were used:

a) Research papers from International/National Journals
b) Case Studies
c) Articles on HR analytics and different tools/softwares for HR analytics.
d) Technical blogs on current scenario in IT and manufacturing industry.

6. Questionnaire Design: Face to Face and telephonic interviews of HR professionals of IT and Manufacturing organizations of Pune and PCMC area were conducted. Major questions formulated for interview purpose are as follows:

i. Are you using HR Analytics tools/softwares in your organisation?
ii. For what purpose you use analytics tools mostly?
iii. Do you think Analytics add value when it comes to decision making or in future is it going to hamper decision making ability amongst HR professionals.

7. Data Analysis Tools: This research was a qualitative in nature and responses received from HR professionals of IT and Manufacturing organizations were in descriptive format through open end questions. The data collected was analyzed using Content Analysis technique and an image of key words of responses was created through Wordcloud Generator.

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Data Analysis and Interpretation:

Table 2: General description of the characteristics of the study sample

Parameters	IT		Manufacturing	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Total companies approached for data collection	125			
Companies approached for data collection	65	52	60	48
Total valid responses received	63			
Valid responses received	37	59	26	41
Gender - Male	15	41	10	38
Gender - Female	22	59	16	62
Position-Junior Level (0 to 5 yrs work experience)	3	8	3	12
Position-Middle Level (5.1 to 10 yrs work experience)	24	65	15	58
Position-Senior Level (>10 yrs work experience)	10	27	8	31

Statistics shows that 63 HR professionals given valid response out of which 37 responses received from IT companies contributing to 59% of responses where as 26 responses received from Manufacturing companies contributing to 41% of responses. In terms of gender, the study population was made up of 39.60 % males and 60.40 % females. In terms of work experience, 9.52 % had less than 5 years whilst 61.91 % had between 5 to 10 years and 28.57 % had more than 10 years of work experience. The largest group of respondents was of 61.91 % working in the middle level.

Fig.1: Table 1: Key words of responses was created through Wordcloud Generator

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The major words came in tot responses of HR professions were analytics, efficiency, time, decision making, performance, efficient, analysis, reports, etc.

Following Interpretations can be drawn from the responses received from HR executives of IT and Manufacturing companies. HR analytics assists and value in decision making with respect to following points:

1. Predictive analytics for managers:

The HR predictive analytics operate in collaboration with the company's managers in order to know the strategies and obtain knowledge from them about the challenges and the issues relevant to their objectives.

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2. Maximizing opportunities:

The HR analytics come in the way of other incentives. This is their responsibility to find the right ones and bring them forward so as to maximize the best opportunities. The incentives are to have an effect on employee overall results.

3. HR Analytics support organizational Plan:

With the help of HR Analytics, HR Executive can generate useful reports which will helps to take proper decisions and plan HR activities according to the organizational plan and goals. HR Analytics support to follow organization plan and achieve organization goals.

4. Assist in Financial decisions:

HR Analytics helps to present the correct situation of the department in terms of resources and helps to take decision in regards with finances to the department. It also helps in financial planning of the organization by providing useful data related to HR activities.

5. Decision making assistance to managers:

HR Analytics is the best tool for Managers to take quick decisions. Managers can use HR Analytics in labour management, wages management and time management.

6. HR Analytics for Strategy Development:

Human resource analyst review, process and transform the huge data into the qualitative information. This qualitative information is very useful for the company leaders to take quick and correct decisions and decide the further plans and actions. This information also helps business leader to review business strategies and if required make necessary changes in business strategies.

7. HR analytics for survey research and studies:

Human resource analyst studies the huge data available in the organization and prepares HR reports for the decision makers. Human resource analyst conduct surveys, collect data, analyze it and prepare reports for organization which will be useful for organization in many ways.

Findings & Inferences:

Following are the findings and inferences are drawn based on the collected responses:

1. The use of HR analytics in IT industry is at bigger extent than manufacturing industry.
2. Most of the IT companies are using HR analytics in its operations.
3. Most of the Manufacturing companies are still using excels for analysing the data.

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4. Data collected at tactical level is more unstructured and after analysis it is in detail, while at strategic level it is very specific and in quantitative form.
5. At tactical level HR analytics is yet to get its place, since there is a gap in required skill sets to work on HR analytics.
6. Analytics is not going to hamper decision making ability of an individual, because HR still relies more on qualitative data. Quantification just helps to give the insights in better way. HR Analytics helps HR in decision making.
7. HR analytics improves the performances of HR and improve the experience of HR.
8. HR analytics helps to predict in demand skills and positions within organizations.
9. HR analytics helps to identify attrition and its causes and thus helps to reduce the attrition rate in organizations.
10. HR analytics transforms the role of HR as strategic partner.
11. HR Analytics improves retention of employees.
12. HR Analytics improves employee engagement.
13. HR Analytics enable better workforce planning.
14. HR analytics helps to design employee development and training programmes.
15. HR Analytics improves employee experience.

Recommendations:
HR analytics, AI tolls in HRM is not a future anymore. But still it is not practiced everywhere till now.

1. Creating skilful workforce for HR analytic:

Organizations need to promote trainings and certification courses to train HR professionals with Analytics tools/software. Well trained professionals always know up to what extent they can rely on resulted data.

2. Promoting behavioral trainings:

Human touch and intuitions also play vital role in decision making according to psychology. To avoid more reliance on analytics results in future, organizations must channelize HR professionals by conducting trainings and workshops on emotional intelligence and decision making skills for them.

Conclusion:

HR analytics is now like backbone of strategic decision taking. It is important to each organization because HR department is the one from whom the decision goes through and after proper review, they do get final. Analytics has its own role to play in decision making. Analytics helps in quantification of data which was previously a very difficult task for HR professionals. Even though it is reality now, it has still long time to gain its popularity in every industry and at every level of organization. With the current scenario in IT and manufacturing industry it is only adding value when it comes to decision making. It is not seen as a constraint by HR professionals that it will hamper their intuitive ability, decision making ability. But it will be interesting to see the how the analytics shape its future in Human Resource Management in near future.

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Future Direction of Research:

This research can be carried out in other sectors like Retail, Banking and Financial Services, etc. Various factors impacting the implementation of HR Analytics in companies should be studies in details.

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