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A Study on Level of Adoption of HR Analytics in Context of Indian Corporate

***Deepa Sharma and **Tilak Sethi**

ABSTRACT

The extent to which HR professionals in the Indian corporate sector have adopted Human Resources Analytics (HRA) is examined in this research paper. A research consisting of questionnaires was completed by 400 HR professionals that work in the manufacturing, IT, retail, and service industries. According to the research, the three most important levels of HRA adoption in Indian organizations are descriptive, predictive, and prescriptive. In order to facilitate researchers' comprehension of the extent of HRA adoption in the Indian business sector, the study provides out a conceptual framework.

Keywords: *HR Analytics, Descriptive analysis, predictive analysis and prescriptive analysis.*

**Research Scholar, Haryana School of Business, Guru Jambheshwar University of Science and Technology, Hisar,*

***Professor, Haryana School of Business, Guru Jambheshwar University of Science and Technology, Hisar*

1. INTRODUCTION

There is no arguing that an organization's human capital is its most crucial component. Employees are the most significant expense even if they are the primary asset. For the reasons mentioned above, HR management need to be the foundation of every organization. The approach to managing HR processes has evolved over the last century, shifting from operational to strategic management. The advancement of technology has made HR management more efficient in this century. The ways in which people live, work, and interact with one another have all been profoundly altered by the fourth industrial revolution (Schwab, 2015). A component of the new Industry 4.0 idea is Smart Human Resources 4.0, or SHR 4.0. Digital innovations employed in

Smart HR 4.0 include artificial intelligence (AI), cloud computing, big data, robotic process automation (RPA), the Internet of Things (IoT), and rapid data Thanks to HR analytics networks, managing employees from the younger generation is now easier (Hecklau, Galeitzke, Flachs, and Kohl, 2016). The optimization of hiring, evaluation, promotion, compensation, retention, and turnover is the focus of HRM when it comes to HR analytics (Tursunbayeva, Di Lauro, and Pagliari, 2018).

1.1 DEFINITION OF HR ANALYTICS

The phrase "HR analytics" is not that old; it was first used in scholarly works in 2004 (Marler and Boudreau, 2017). According to Mortensen, Doherty, and Robinson (2015), analytics is the nexus of computer science, decision-making, and quantitative techniques for organizing, analyzing, and explaining the growing volume of data produced by contemporary civilization. The inclusion of the "HR" component signifies that the individuals inside the business are the focus of these investigations (Heuvel and Bondarouk, 2017). Thus, in order to improve decision-making, HR analytics can be characterized as a methodical identification and measurement of the human drivers of business outcomes (Heuvel and Bondarouk, 2017). HR analytics gathers information from several business divisions throughout the company. First, the data are stored in HR Information Systems (HRIS) and include information about the employee's work history, salary and promotion history, training history, including licenses and certificates, and demographics such as name, address, gender, age, ethnicity, occupation, seniority, tenure, and salary levels. A payroll system includes information for analysis in addition to the following: employee scheduling software, application tracking systems, recruiting tools, and employee engagement surveys. Non-HR data from the enterprise's Management Information System is also a part of HR analytics (such as ERP). Diez, Bussin, and Lee (2019) suggest that the following data can be utilized: revenue, cost, and profit from the finance module; customer happiness and retention from the marketing module; and volume, defect rates, and returned goods from the production module.

1.2 LEVEL OF ADOPTION OF HR ANALYTICS

Descriptive, predictive, and perspective analysis are all provided by HR analytics (Reddy, 2017). With an emphasis on process optimization, descriptive analytics illustrates linkages based on past

and present trends (Reddy, 2017). The foundation of descriptive analytics is HR metrics, which gauge important HRM performance objectives like efficacy and efficiency. Key Performance Indicators, or KPIs, are metrics that can be applied to various personnel functions, such as talent and career management, performance management, recruiting and selection, human resource planning, learning and development strategy, employee benefits, pensions and allowances, employee release from the company, and health, safety, and well-being (Wawer, 2018). HR metrics for worker productivity and performance usually include labor costs, turnover, and profit. For example, profit generated by workers is measured as a monthly or annual profit and divided by the total number of workers; alternatively, profit per worker is calculated as the business profit divided by the total number of workers. Predictive analysis employs both historical and present data to forecast future events. It includes a variety of statistical approaches like data mining and modeling. Prescriptive analytics, on the other hand, shows alternative affects and predicts outcomes using optimization and simulation algorithms (Reddy, 2017).

2. LITERATURE REVIEW

According to, Holsapple, C., Lee-Post, A. and Pakath, R. (2014); the exponential growth of business analytics is evident by the proliferation of its applications in various management discourses, such as marketing, supply chain management, information systems, finance, crises management, risk management, and human resources management. It is not surprising for the human resources domain to join this new era of data revolution since HRM is solely tasked with managing people, the most significant asset of any organization. The centrality of the people's asset to the organization is recognized by prominent management authors, such as Armstrong, M. (2006), who referred to employees as people who individually and collectively contribute to the achievement of its objectives. According to, Sullivan, J. (2013b); the value of the people's asset is also manifested in its cost to the organization, as it is estimated at 60% of the variable costs; such a significant cost item would, arguably, benefit from applying analytical techniques for its effective management. Aral et al.(2012) argued that, in addition to measuring employees' performance, HR needs to link its data with the data of other systems in the organization to improve its function of engaging and aligning the goals of employees with the organization's business strategy. Achieving this, Lawler III et al. (2004) suggest, can be obtained through analytics, as HR Analytics enhances

the organization's capability to measure how HR decisions affect business outcomes. HR Analytics contributes to the management of HR in different ways, such as using HR data to collect insights about a specific function or department of an organization and take some improvement decisions regarding these insights (see e.g., McCartney et al. (2022). These decisions maybe related to turnover rate among employees or to performance measures that might lead to a new specific training program for the staff. However, as Marler and Boudreau's et al. (2017) review of the HR Analytics literature reveals, this topic is still in its infancy; inviting researchers to investigate its many unexplored facts to develop adequate understanding of the topic and statistically test the findings that emanate from this understanding.

Tursunbayeva et al. (Tursunbayeva et al., 2018) have analysed the term People Analytics (PA) in academic research and online search traffic since 2002. The searches of academic literature were undertaken adopting a subset of seven core keywords (HR analytics, Human Resources analytics, people analytics, workforce analytics, employee analytics, human capital analytics, talent analytics) using the Scopus database. The authors searched for each keyword in Google to identify vendors of HRA services and tools. They noticed that there were many HRA tools offering functional and strategic benefits on the market. According to the researchers, it is difficult to find evidence in the literature to prove the benefits of using HR analytics. The lack of empirical studies exploring the outcomes of HRA implementation encouraged them to carry out further studies. Sivathanu and Pillai (2018) pointed out two main benefits of Smart HR 4.0: attracting, developing, retaining new-age talent, and more efficient, faster HR operations resulting in leaner HR departments. Heuvel and Bondarouk conducted research regarding the future of HR analytics using a sample of 20 practitioners in 11 large Dutch companies in 2017. The authors were interested in the application, structure, value, and system support of HR analytics in 2025. Their findings indicated that HR analytics would become an established discipline with a proven impact on business outcomes and a major influence in strategic and operational decision-making in the coming years. The authors concluded that the future development of HR analytics would probably be driven by the prominence of employee data integration with data from other departments of the organization, namely finance, marketing, sales, and also social media, and personal devices. HR analytics is also a subject of interest of vendors and providers of business consulting. For instance,

the Deloitte Global Human Capital Trends Report (Deloitte Development LLC, 2017) was based on a survey of 10,000 HR and business leaders, and art of the report is devoted to HR Analytics. It was noted that although 71% of companies saw HR Analytics as a high priority in their organizations (31% very important), the progress of adopting this trend in organizations was slow. Analytics is applied to a wide range of business areas but recruiting remained the most important, followed by performance measurement, compensation, workforce planning and retention. The Deloitte report specified the following barriers of HR analytics in organizations: usable data (8%) and a good understanding (9%) of the dimensions driving performance.

CIPD (2020) organizes HRA's functional areas into three categories. First, descriptive analytics is the process of using descriptive data to show how HR functions, such as tracking yearly leave, absences, attrition, and recruiting rates. Second, HR professionals may make sure they are able to deliver to the business by planning ahead for future events and scenarios with the aid of predictive analytics, which is the use of data to predict future trends. Third, prescriptive analytics is the use of computational and mathematical sciences to make recommendations for decisions that capitalize on the findings of predictive and descriptive analytics.

3. RATIONALE OF THE STUDY

The competencies required of HR professionals in a traditional context differ from those needed for HR analytics. Given the intersection of business and technology, HR analytics may benefit from a dedicated team or entity focused on gathering, analyzing, and transforming data. This approach would support other HR functions in their decision-making processes and contribute to broader business strategy decisions. Since implementing HR Analytics, the HR department has undergone substantial transformation. Therefore, organizations must focus on the department as a whole to achieve company goals and objectives and play a more strategic role. HR professionals must review HR policies and procedures to successfully integrate HR Analytics into every process. While several studies on HR Analytics have been conducted in industrialized countries, showing widespread use in many enterprises, there is a lack of research in the Indian context. This gap makes it challenging to determine the adoption level of HR Analytics in Indian firms and the benefits they derive from it. Furthermore, the relationship between the adoption level and HR

Analytics is not well understood. This study aims to investigate the adoption level of HR Analytics in the Indian business sector.

4. OBJECTIVES OF THE STUDY

1. To investigate the connection between extent of adoption of level of HR Analytics and HR Analytics.

2. To investigate the impact of extent of level of adoption of HR Analytics on HRA adoption.

5. HYPOTHESIS OF THE STUDY

1. H1: There shall be a significant relationship between HRA and extent of level of adoption of HRA.

2. H2: There is significant impact of extent of level of adoption of HRA on HR Analytics.

6. RESEARCH METHODOLOGY

A total of 452 questionnaires were distributed for the study; of them, 400 were kept for analysis and 50 were rejected owing to low response rates. The information included came from 100 Indian organizations. The research indicates that 30.8% of the participants were from MNCs, 38.2% were from small businesses, 34.5% were from medium-sized businesses, and 13.5% were from large-sized businesses. 26.8% of respondents came from the manufacturing sector, 26.2% from the retail sector, 20.0% from the service sector, and 27.0% from IT.

6.1 MEASURES

The study's scale includes 20 items pertaining to HR Analytics, with a Cronbach's alpha of 0.832, and 13 items measuring the degree of HRA adoption, with a Cronbach's alpha of 0.746.Every item was scored using a five-point Likert scale, with one representing "strongly disagree" and five representing "strongly agree."

6.2 CONTROL VARIABLES

The type of organization and its industry were taken into account as control variables in the study. Organizational type was coded as follows: sector (1=IT, 2=Manufacturing, 3=Services, 4=Others), 1=MNC, 2=Small Indian Companies, 3=Medium Scale Companies, and 4=Large Scale Companies).

7. RESULTS

7.1 CORRELATION RESULTS

TABLE 1

	HRA	LA1	LA2	LA3	LA4	LA5	LA6	LA7	LA8	LA9	LA10	LA11	LA12	LA13
HRA	1													
LA1	-.002	1												
LA2	.048	.283**	1											
LA3	.017	.355**	.259**	1										
LA4	-.011	.376**	.278**	.393**	1									
LA5	.088	.290**	.145**	.328**	.359**	1								
LA6	.044	0288**	0232**	.159**	.248**	.249**	1							
LA7	.114*	.369**	.298**	.272**	.270**	.258**	.340**	1						
LA8	.025	.290**	.245**	.214**	.256**	.325**	.230**	.408**	1					
LA9	.090	.277**	.337**	.289**	.266**	.254**	.306**	.222**	.299**	1				
LA10	-.006	.306**	.248**	.209**	.222**	.300**	.269**	.292**	.300**	.294**	1			
LA11	.049	.388**	.271**	.222**	.301**	.235**	.301**	.309**	.258**	.256**	.267**	1		
LA12	.027	.320**	.312**	.369**	.313**	.289**	.245**	.253**	.278**	.228**	.208**	.301**	1	
LA13	.153**	.245**	.220**	.202**	.103**	.262**	.278**	.407**	.237**	.192**	.348**	.255**	.326**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

7.2 REGRESSION ANALYSIS RESULTS

Further, multiple regression was run to check the significant of the hypothesized relationship. In Model 1, LA7 (Predictive level) was found significant and positive(Beta=0.114; $p<0.05$) with HR

Analytics(dependent variable). Model 2 highlighted the significant and positive effect of LA13 ie. Prescriptive level (independent variable) with HRA(Beta=0.153; p<0.01).Therefore , confirming hypothesis II.

As indicated in table 2, we can see that R-square value of Model 1 is 0.13 and Model 2 is 0.23, which means that our independent variable ie. LA7 causes 13.0% change in dependent variable ie. HRA(HR Analytics) and our independent variable LA13 causes 23.0% change in depent variable (HRA) HR Analytics.

TABLE 2 : RESULTS OF MULTIPLE REGRESSION ANALYSIS

		HR Analytics (HRA)
Independent variable	Model 1	Model 2
LA7 (Predictive)	.114*	-
LA13 (Prescriptive)	-	.153**
R2	0.13	.023
Adjusted R2	.011	.021
F Statistics	5.239	9.511
N	400	400

Notes: **p<0.01; *p<0.05

8. DISCUSSION AND MANAGERIAL IMPLICATIONS

A survey of the literature reveals that HR Analytics has several benefits for the business. Thus, the better question is how to leverage an employee's analytical skills rather than whether or not they should function as analysts. The goal of the current study was to investigate the relationship between extent of level of adoption of HRA and HRA competencies in the Indian business sector. To accomplish the goal, Pearson correlation was used, and the outcome showed a substantial relationship between HRA and extent of level of adoption of HRA. This implies that the introduction of HRA in the Indian corporate sector is lies at predictive and prescriptive level of adoption. Regression analysis was also used to determine that Indian organizations lies at the predictive and prescriptive level of adoption of HRA and findings were found. Regression analysis results showed that the Indian corporate sector's lies at predictive and prescriptive level in the current system serves as extent of level of adoption of HRA.

9. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Like all studies, this one has certain limits. Researchers can choose topics to focus on in future studies, using the same sample or a different one, by using the constraints of the current study. Future research can examine the indirect effect through organizational performance, however this study concentrated on the direct association between various organizational issues and HR analytics. Subsequent studies may additionally examine the distinctions based on the types of organizations (retail, manufacturing, and service) as well as the ownership or industry of the firms in order to verify the relationship between the constructs. The skills needed to manage HR Analytics differ from those needed for human resource professionals in a typical context. Since trade and technology are the origins of HR Analytics, it might be essential for firms to involve an unbiased party or organization in HR Analytics-related transactions. In addition to supporting HR's decision-making function, this body or institution should also manage data preparation, renewal, and collecting in order to maximize profits for overall corporate strategic results.HR managers used to accomplish this by reintroducing HR procedures to apply HR Analytics across the entire process of a profitable purchase. HR executives are recommended to work with the departments employing IT and analytical tools in order to optimize its utility and benefit. The study's conclusions also recommended providing employees with training to improve their adoption of

analytics for improved organizational performance and to advance their personal abilities for personal development.

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