HR Analytics Challenges In Bringing Success To HR Professionals

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Abstract

Purpose: In recent days, Human Resource Analytics (HRA) helps to enhance the growth and development of revenue and performance of any organization from both employers and employee perspectives. However, HRA remains unidentified whether it influences the organizational performance and profit and employee's sustainability as well. For such reasons, this paper aims to investigate the challenges HRA faces today to bring success among HR professionals in Information Technology (IT) industry.

Design/Methodology/Approach: Through a questionnaire with a set of 40 questions surveyed from 300 HR professionals of Kerala IT companies, regression analysis and Analysis of Variance (ANOVA) tests were performed to uncover the challenges and struggles in imposing HRA.

Findings: From the research, the findings show the barriers in imposing HRA were changing periodically however, most of the IT industry spent huge amounts in analytics, particularly on Human Resource Management (HRM), and generate research reports annually. Also, in India, research regarding HRA was conducted on a minimum scale from the last decade.

Originality/Value: This study conveys significantly to the HRA and HR professionals. Firstly, the study explains the challenges of HRA leading to bringing maximum organizational performance. Secondly, the research uncovers that access to HRA allows HR professionals a broad insight and clear understanding of the employee's retention. Finally, experiential evidence is presented to support HRA and possible solutions to bring success in the IT industry.

Keywords: HR Analytics, HR Professionals, IT Industry, Challenges, HRA Implementation.

Introduction

Recently, IT sectors exhibit tremendous growth as far as implausible potential in elevating the economic progress of a nation. Especially, the IT/ IT-enabled service (IT/ITES) of India exposed the incomparable evolution of IT sectors from the past decade [1]. The HRA and HR professionals in IT companies particularly concentrate on the talents, decision-making ability, and inspiration of workforces [2]. Thus, the necessity for investigating and analyzing the role of sustainability, inspiration, and performance is crucial and becomes mandatory for the betterment of both employees as well as the organization [3].

In India, Kerala plays important role in IT developments and ranks 8th in the export by Software Technology Parks of India (STPI) registered IT/ITES units. Additionally, Kerala is becoming a foremost performer in the digital economy in India. Since the 9th Five-Year Plan, the state gets benefits from the development of the IT industry. According to the progress and benefits of the IT industry, the State Government of Kerala puts noteworthy efforts into developing world-class infrastructure and digital technology capacities. Especially, the government of Kerala enabled strong HR practices and facilities to attain a progressive digital state. Furthermore, the approach for XIII Five-Year Plan aims to make available trained HR practices by confirming talents

improvement programs in each educational organization [4][5][6].

HRA can be defined as the procedure of gathering and analyzing HR data to enhance the industry's employees' performance [7]. Besides, HRA permits the scientific solution to industries for ensuring substantial human capital as well as strategic business decisions [8]. Thus, an organization attains profits and a competitive advantage. Particularly, IT companies show considerable growth as well as successful management when implementing HRA [9][10]. Among all the businesses, IT companies surmount most of the business practices and become a prime spot with regards to profits and revenue, and larger productivity premium [11].

Together with the implementation of HRA and HR professionals in the IT industry becomes the reason for the success of the IT business [12][13]. However, the absenteeism of statistics related to the HRM system limits the growth and acts as a barrier for the organizational performance of the employees till retirement [14]. To maintain continuous progress in IT sectors, one needs to have efficiency concerning knowledge as far as motivation [15]. However, the knowledge economy necessitates the workforce to be expertise in knowledge and the employees themselves know how to attain success and profits [16]. In order to solve this controversy, most of the IT sectors follow proper HR practices and HRM [17][18]. Yet, there is necessary to enhance the HRA and present Human Capital Management (HCM) in IT sectors to get appropriate success in both IT productivity and organizational performance [19][20]. For this purpose, this study inspects the challenges of HRA and HR professionals that suppress the implementation of HRA in the IT sector. HRA for organizational performance emphasizes the long-term objective of contributing to the revenue and performance from inside and outside the organization [21].

The organization of the paper is as follows. Section 2 presents the recent literature regarding sustainable employability, HRA, and HR practices. Section 3 provides the research gap and Section 4 presents the research objectives. Further, Section 5 portrays research questions and the associated methodology is addressed in Section 6. Section 7 discusses the attained results. The analysis used to investigate the research is deliberated in Section 8. Section 9, Section 10, Section 11, and Section 12 deliver the findings, conclusion, limitation, and future work respectively.

Literature

Generally, HRA is known to be applied for accomplishing improved critical talent as well as business results. In 2021, Fernandez V and Gallardo-Gallardo [22] presented a review of factors that bother implementing HRA in industries and among HR professionals. Moreover, the authors explained the factors that were involved in HRA and the reasons that hinder HRA implementations in industries. The study showed that there exists confusion in HRA conceptualization. Mainly, data and models, software and technology, people, and management were the four factors identified to be bothering implementing HRA in organizations.

According to [23] in 2021 by Gurusinghe R.N et al., HRA is experiencing the fastest growth due to digitalization and the evolution of Artificial Intelligence (AI). Moreover, HRA helps companies to develop evidence-based strategic business decisions which result in a competitive advantage that lasts. As a result, HRA evolved to be a novel addition to organizations' successful people management. Despite the fact that certain organizations use HRA, the acceptance and spread of HRA in developing countries is still slow. The factors that diffuse the HRA adoption including decision-making, technologies, leadership, and data quality were also identified and discussed.

In 2021, Lisa Marie Giermindl et al., [24] explored the lagging HRA adoption in organizations using innovation theory with the aid of Theory of Planned Behaviour (TPB). The authors looked at the early phases of an individual's decision-making process, starting with phase one from the knowledge and progressing to phase three, the decision to accept or not embrace the innovation. Several moments in the process were identified as potential obstacles or facilitators. Organizations and proponents of this innovation who want to make HRA implementation easier for individuals can take steps to remove as many of these hurdles as feasible.

In 2019, Isari, D et al., [25] addressed the difficulties in applying HRA in organizations. Also, this study used a social cognitive theory background to investigate HR professionals' beliefs and prospects of the shifting roles which HR professionals, as well as line managers, can perform in the future when a set of smart technologies is used to adopt HRM. It examined the relationship between HR professionals and the line managers in the digitalized consulting organizations and suggested reshaping the HRA adoption.

In 2016, David Angrave et al., [26] examined the optimistic challenges in adopting HRA in industries. Besides, the authors explained the reason, why HRA is necessary for digitalized industries and stated HR professionals were a "must-have" skill that will secure HR's future as a strategic management function while improving organizational performance. It contends that present HRA procedures are unlikely to bring transformative change unless the HR profession recognizes both the promise and disadvantages of this growing discipline and engages operationally and strategically to develop better methodologies and approaches. Indeed, present tendencies may cement HR's isolation from strategic, board-level influence, while doing nothing to assist organizations and actively harming employees' interests.

In 2022, McCartney, S. and Fu, N [27] stated that HRA has grown in popularity and usage, it was still unclear if HRA can improve organizational performance. As a result, the goal of this research was to better understand the reasons concerning HRA which leads to improved organizational performance, as well as the factors that cause this improvement. Furthermore, HRA was conceptualized by providing a complete definition. It also assisted business and HR leaders in making educated decisions about HRA implementation and the gaps that diffuse HRA.

Hypothesis formulation

From the literature, the following hypotheses have been attained.

(H1); There is a relationship between HRA implementation and HR professionals' expectancy
(H2): There is a relationship between HRA implementation and organizational performance

(H3): There is a relationship between HRA implementation and people management
(H4): There is a relationship between HRA implementation and data availability
(H5): There is a relationship between HRA implementation and software and management
(H6): There is a relationship between HRA implementation and self-efficacy

Research Objectives

With the consideration of the above-stated HRA adoption, the IT sector attained progressive profits and work satisfaction. However, a proper guideline to keep a positive relationship among HRA and HR professionals is still a challenging task that further needs to be investigated and device new plans. For this reason, this paper aims to solve some of the basic challenges that limit the adoption of HRA. The main objectives are as follows:

- To examine HRA and HRM from the perspective of the HR professionals.
- To explore the degree of IT industry implemented the HRA measures to improvise the organizational performance and self-efficacy.
- To expound on the extent to which the HR professionals use the implemented HRA practices.

Research Questions

1. Why HRA activity is mandatory?
2. What is the relationship between HRA and HR professionals?
3. What is the relationship between HRA and organizational performance?

Methodology

Generally, HR is monumental to any industry's success. Apart from knowledge, HR helps to attain talents and skills for technical assessments, and sustainable success of any industry. To industry, it is still a challenging task to evaluate the ability, quality, and degree of human capital required for the success of an organization's effort and sustainability for the workforce. Conventionally, the implementation of HRA activities in industries was performed manually [28]. With the evolution of technological advancements these days, a lot of techniques were developed to implement HRA activities. Specifically, HRA activities can be

implemented using data mining analytics, big data analytics, and AI. Thereby, these techniques pave a new way to analytics namely HRA [29]. Associated with HRA, HR professionals encourage the organization to put effort into organizational performance [30]. However, the HRA and HR professionals are initially implemented in the Western IT industry and later adopted by the Indian IT industry. Even though Indian IT sectors are aware of HRA, there is insufficient insight exists with respect to HR systems, teams, and people talents. Besides, the HR practices revealed inadequacies in providing sustainability, flexible working hours, training and skills, data availability, and self-efficacy. To guarantee the existence of such HRA adoption in the IT industry, there is a requirement for proper guidelines and analytics tools as well.

The IT industry is already aware of HRM policies. Moreover, the IT sectors have the knowledge about the inference of the HCM strategies and HRA implementation to all their workforce with the consideration of motivation/inspiration and efficiency. Together with appropriate HRM practices, the IT industry can motivate the workforce by enforcing evidence-based HRM policies. The current scenario of the IT business revealed a positive relationship between HRA and HR professionals. Yet, most of the companies suffer due to improper guidance and insufficient guidelines to implement HRA among the workforce and organization. A lot of studies and investigation has been carried out to find the relationship between HRA and HR policies and thus, device proper guidelines for both employers and employees to keep organizational success. However, successful implementation needs more investigation to device progressive development. Figure 1 demonstrates the basic concepts of the study.
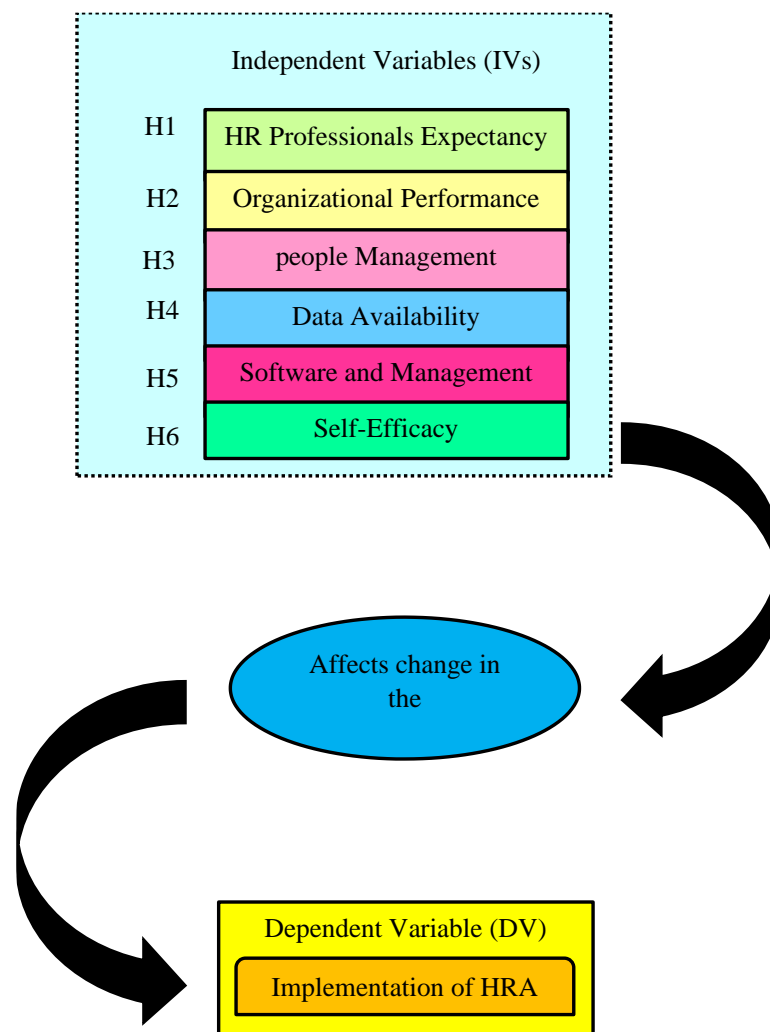
Figure 1: Schematic Representation of Basic Concepts of the Study

Data Collection

For this study, 274 companies in the IT industry were chosen. A convenience sample strategy was used to choose 245 IT organisations from among them. A questionnaire with 42 questions on HRA implementation and HR specialists at their firms was produced and delivered to 245 IT companies through electronic mail (e-mail). It includes the measures done by the organization, HRA, and HR practices used by the enterprise, as well as organisational performance. The IT industry participants were evenly split into three size groups: big scale with 100 or more people, medium scale with 21–99 employees, and small scale with 1–20 employees. A total of 190 IT businesses answered, and in exchange, a comparative study of HRA implementation and HR experts in the IT organizations was conducted.

Results And Discussion

The demographic information for the 190 responders is shown below. The gender of the responders is shown in Table 1. Table 2 shows the HR professional's experience in the IT field. Table 3 outlines the organization's size, such as small-scale, medium-scale, or large-scale. Table 4 shows the HRA used in the IT field. Table 5 depicts HR experts' perspectives on HRA adoption and practise in the IT industry.

Table 1 Gender Illustration

Factor	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	102	53.68	53.68	53.68
	Female	88	46.32	46.32	100.0
Total		190	100.0	100.0	

Table 2 HR Professional's Experience

Factor	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Experience of the Employee (in years)	Less than 01 Year	76	40	40	40
	01 year to 05 Years	54	28.42	28.42	68.42
	05 year to 10 Years	37	19.47	19.47	87.89
	More than 10 years	23	12.11	12.11	100.0
Total		190	100.0	100.0	

Table 3 Size of the Organization

Factor	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Size of the Organization	1 to 20 employees	48	25.26	25.26	25.26

	21 to 99 employees	96	50.53	50.53	75.79
	100 or more employees	46	24.21	24.21	100.0
Total		190	100.0	100.0	

Table 4 HRA used in the Organization

Factor	Value	Frequency	Percent	Valid Percent	Cumulative Percent
HRA used in the Organization (in years)	Less than 01 Year	31	16.32	16.32	16.32
	01 year to 05 Years	52	27.37	27.37	43.69
	05 year to 10 Years	49	25.79	25.79	69.48
	More than 10 years	58	30.52	30.52	100.0
Total		190	100.0	100.0	

Table 5 Opinion of HR Professionals about the HR Analytics Practices used in the Organization

Factor	Value	Frequency	Percent	Valid Percent	Cumulative Percent
Opinion of HR Professionals about the HR Analytics Practices used in the Organization	Strongly Effective	102	53.68	53.68	53.68
	Effective	72	37.89	37.89	91.57
	Neutral	9	4.74	4.74	96.31
	Ineffective	4	2.11	2.11	98.42
	Strongly Ineffective	3	1.58	1.58	100.0
Total		190	100.0	100.0	

Descriptive Data Analysis

The participating IT industry was evenly distributed across three size groups: 20% had 100 or more employees, 50% had 21–99 employees, and 30% had 1–20 employees. Table 6 explains the barriers that diffuse the implementation of HRA and HR professionals through a statistical analysis and reliability test using Cronbach α/KR20. From the investigation, it is clear that the factors attained higher reliability scores such as .85, .91, .81, .86, .87, and .88 for the factors HR professionals' expectancy, organizational performance, people management, data availability, software and management, and self-efficacy respectively. Most of the IT companies face the above-mentioned reasons and are reliable yet, they achieved higher reliability scores (i.e., greater than 7). Among them, the organizational performance, and self-efficacy factors are considered as key factors since they are proportional to each other. According to the overall statistics, the factors indicated in Table 6 show that HR professionals' expectancy [mean 6.14, and SD .92] obtained major responses from the HR professionals, and organizational performance [mean 8.49, and SD 1.69] revealed a potential relationship with HRA. Further, people management [mean 5.21, and SD .72], data availability [mean 6.91, and SD .95], software and management [mean 7.15, and SD .99], and self-efficacy [mean 7.89, and SD 1.078] accomplished considerable reliability as well as statistical scores. Besides, Table 6 summarizes the correlation among the factors considered. The study revealed that the factors related to HR professionals with respect to the successful implementation of HRA attained a positive relationship with organizational success. The correlation between organizational performance and self-efficacy is .61 for the significance $P < .001$. Similarly, the correlation between self-efficacy and HR professionals' expectancy is .58 for the significance $P < .001$. On the other hand, the correlation between HR Professionals' Expectancy and Software and Management is .37 for significance $p<0.01$. From this analysis, it is expounded that HRA is directly proportional to the betterment of the HR professionals and to get insights into the talent and training activities. Moreover, HR practices help to improvise an organizational performance. It is feasible that the hypotheses attained positive relationships and better significance scores and thus, the hypotheses are consistent.

Table 6 Descriptive Data Analysis using the Factors including HR Professionals' Expectancy, Organizational Performance, People Management, Data Availability, Software and Management, and Self-Efficacy Statistics, Correlation, and Reliability

Factors	1	2	3	4	5	6
HR Professionals' Expectancy	1.00					
Organizational Performance	.56***	1.00				
People Management	.51***	.55***	1.00			
Data Availability	.4**	.38**	.41**	1.00		
Software and Management	.37**	.5***	.43**	.48**	1.00	
Self-Efficacy	.58***	.61***	.51***	.49**	.47**	1.00
Mean	6.14	8.49	5.21	6.91	7.15	7.89
Median	5.92	8.2	5.1	6.49	6.98	7.31
SD	.92	1.69	.72	.95	.99	1.078
Cronbach's α/KR20	.85	.91	.81	.86	.87	.88
*P < .05; **P < .01; ***P < .001.						

Regression Analysis

The purpose of regression analysis is to find a relationship between a dependent variable and one or more independent variables. To produce an estimated regression analysis, a relationship model is theorized and parameter values are approximated. Using linear regression analysis, the following assumptions are tested.

H0a: There is no positive relationship between HRA adoption and HR professionals

H1a: There is a significant relationship between HRA adoption and organizational performance

H0b: There is no significant relationship between HRA adoption and self-efficacy

H1b: There is a significant relationship between HRA adoption and data availability

Table 7 Results of Linear Regression Analysis with respect to HRA Adoption among HR Professionals with regards to HR Professionals, Organizational Performance, Self-Efficacy, and Data Availability

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	sig
	B	Std. Error	Beta (β)		
(constant)	0.986	0.014		3.114	0.000
HR Professionals	0.792	0.208	0.75	2.01	0.518
Organizational Performance	0.865	0.135	0.81	2.358	0.001
Self-Efficacy	0.895	0.105	0.79	2.512	0.611
Data Availability	0.785	0.215	0.72	2.288	0.012
a: dependent variable HRA; significant level P<=0.05					

From Table 7, H0a: There is no positive relationship between HRA adoption and HR professionals with a significant level of $P>=0.05$. Therefore, H0a is not significantly associated and can be rejected the null hypothesis.

H1a: There is a positive relationship between HRA adoption and organizational performance with a significant level of $P<=0.05$. Therefore, H1a is significantly associated.

H0b: There is no positive relationship between HRA adoption and self-efficacy with a significant level of $P>=0.05$. Therefore, H0b is not significantly associated and can be rejected the null hypothesis.

H1b: There is a positive relationship between HRA adoption and data availability with a significant level of $P<=0.05$. Therefore, H1b is significantly associated.

Findings
- The demography analysis revealed the frequency of questions responded by the HR professionals, organizations size, HRA implementation in IT companies.
- From statistical analysis, reliability, and correlation test, the above-mentioned factors have attained a reliability score above 0.7 (i.e., Cronbach's α/KR20 of all factors are >.7).
- In linear regression analysis, it is evident that the null hypotheses are not associated with HRA implementation. Furthermore, organizational performance and self-efficacy attained higher significance over other factors.

Conclusion and Limitation
According to the findings, HR professionals who feel they have the ability of learning and

perform the essential analytics procedure are more inclined to use it. The correlation coefficient between organizational performance and HRA implementation was the second-highest in this study, indicating that this element has a significant influence on HR professionals' implementation decisions. Another essential aspect of this study is self-efficacy. The correlation coefficient between data availability and HRA implementation was determined to be (6.91), indicating a positive association between the two parameters. However, it is highly recommended that this study be applied to a bigger sample size because the findings may change. Another suggestion is to broaden the scope and include diverse Indian states working in other fields. This research might potentially have a broader variety and international focus. It is proposed the measures of other environmental and demographic factors in addition to the elements of the unified theory of technology implementation and practice.

Future Research

HRA emerged as an emerging topic with a wide range of applications, particularly in the IT business sphere, throughout the research. It confirms that data-driven judgments are more likely to be correct. HR professionals will either accept this reality or be replaced by those who will. Companies who find out how to integrate subject expertise with HRA will move ahead of their competitors in every industry. However, while it's tough to claim that all of the winners would use HRA to revolutionize decision-making, the evidence suggests that this is the most likely scenario. Large corporations began working on the HRA idea as the amount of data and breadth of the industry grew, and they may perform various sorts of research on the use of HRA in numerous disciplines. On considering this, future research focuses on the online survey with broad scopes and challenges.

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