

# Weighted HRA Disclosure Index: An Alternative Measure of HRA Disclosure with Selective Application to Infosys and MMTC

Geeta Sidharth\*

## ABSTRACT

*Human resource accounting (HRA) researchers all over the globe are engaged in measuring HRA disclosures (HRAD) practices and their linkages with performance, productivity, investments, and company characteristics. A major limitation of these research efforts is the application of a unidimensional unweighted HRAD index due to the unavailability of an updated weighted HRAD index. This research paper is an attempt to fill this void in the existing HRA research area by suggesting an all-inclusive, multi-dimensional weighted HRAD Index that is capable of capturing significant trends in HRA reporting in quantifiable numbers that can be then made subject to numerical or statistical applications. The proposed index is segmented into three sections including 28 broad items of qualitative and quantitative information about human resources with the most importance assigned to Industrial Relations, Training Programs, Employees participation in management, HR value, and Profit to HR ratio. To demonstrate the suitability of the index in intra-company and inter-company comparisons, it's applied to two leading corporates in India - Infosys and MMTC selectively for four years over a period ranging from 2001-02 to 2021-22. The proposed index will be useful for human resource managers, users, and HRA researchers in improving the quality of their decisions and measurements.*

**Keywords:** Human Resource Accounting (HRA), HRA Disclosure (HRAD) Index, Infosys, MMTC

\* Associate Professor, Department of Commerce, Gargi College, University of Delhi, Delhi, India. Email: [geeta.siddharth@gargi.du.ac.in](mailto:geeta.siddharth@gargi.du.ac.in)

## INTRODUCTION

Human Resource (HR) denotes the collective energies, expertise, leadership, innovation, managerial, and entrepreneurial skills of an organization's employees, not replaceable by any other physical or financial resource. With the same technology, a competitive human resource team makes all the difference (Conner, 1991). The development of human resources is an essential factor in sustained and accelerated economic growth (Mallik, 1993). However, this vital resource is often overlooked when it comes to inclusivity in the financial statements of organizations, and its absence is majorly attributed to the lack of objective measurements to value this intangible asset (Jenson, 2001; Oluwatoyin, 2014). The reality is that there is a systematic and scientific framework to measure and report human resources through its specialized segment i.e. Human Resource Accounting (HRA).

HRA is based on the premise that people are valuable resources of an organization and information about them would be a useful aid to decision making. Defined as "the process of identifying, measuring, and communicating information about human resources to decision makers" (American Accounting Association, 1973), HRA encourages managers/HR managers to give more serious contemplations to human resource impacts on all of their decisions (Flamholtz, 1974) and provides a necessary supplement to conventional income measurement by broadening the coverage of measures of the financial success of organizations (Brummet, Flamholtz & Pyle, 1969). It improves how people contribute to organizations, society, and economic well-being (American Accounting Association, 1974).

Despite showing promises for improving the well-being of the firm, stakeholders, society, and economy, implementing HRA in financial statements or annual reports by companies has not gained the momentum in practice that it rightfully deserves, due to ignorance, lack of support from the ICAI and the company law (Kodwani & Tiwari, 2007; Meena, 2021). The absence of any standards and statutory requirements regarding HRAD has left it to the discretion of the companies across various industries and nations, resulting in the lack of any well-established yardstick for accounting and disclosure of HR in the annual reports (Bonsu et al., 2019; Guthrie, Petty & Johanson, 2001; Okeke, 2016). Most HR disclosures are voluntary and are conveyed to the users through annual reports, CSR reports, and HRA reports (Monteiro et al., 2021). There have been lots of efforts on the part of researchers to develop the necessary framework

and establish links to justify HRA's usefulness since its inception by measuring the HRA disclosures (HRAD) and linking it to management and organizational outcomes, and organizational characteristics (Bhattacharjee & Das, 2022). HRAD is found related to productivity and performance (Lin, Huang, Du & Lin, 2012; Patra & Khatik, 2003), profitability (Asika, Chitom & Chelichi, 2017; Kaur, Raman & Singhania, 2014; Ushie, 2018), financial condition (Ijeoma & Aronu, 2013; Ushie, 2018), HR investments (Kaur, Raman & Singhania, 2014), and company's reputation (Dominguez, 2011; Olayiwola, 2016). The efforts of researchers, for measuring the HRA disclosure practices or linking it with characteristics, outcomes, and/or managerial implications, essentially included the use of the HRAD Index, primarily developed by Al-Mamun (2009) or their own. However, the present HRAD indexes do not assess the multidimensionality of the HRA disclosures in terms of the quality or relative importance of the disclosure items (Aminu, 2022). This paper presents a solution to the present situation by offering a Weighted HRAD index to measure the disclosure of human resources by organizations.

## LITERATURE REVIEW

Many researchers have attempted to measure the impact of HRAD or to link it with organizational characteristics using the HRAD index or other approaches. Huang, Abidin and Jusoff (2008) for example examined the extent of HR disclosure in Malaysian top companies using content analysis by applying word count on a 5-point Likert scale and revealed that HRA is not followed by the companies. Information on human resource training, skills, and development were found to be the most disclosed information by the companies. The scale, however, assigned one to non-disclosure of an item of information and did not cater to the quality aspect of the information. Kaur, Raman and Singhania (2014) examined the determinants of HRAD in select Indian companies using a sixteen-item unweighted disclosure index and found variations in the sample companies. The researchers reported that the HRAD is very low in Indian companies and is inconsistent, incompatible, and unstructured across companies and also industries. Yadav and Gite (2015) also examined item-wise disclosure in Indian banking companies and found training and development of HR to be the most disclosed item followed by the number of employees, whereas despite the crucial role of human resources in the success of the business, the HR value was the least reported item. Puri, Sharma and Kumar (2016) also examined the company-wise and item-wise disclosure in IT companies using 33 item disclosure index developed

based on the reported voluntary disclosure indices in existing research studies and the best practices followed by leading Indian companies such as Wipro and Infosys. Applying the index by using the content analysis on twenty Indian IT companies, the researchers reported that training and development, leadership programs, and HR policy are the most reported items in the Indian IT companies but the HR value and several other key information are not presented in the annual reports of these companies.

Sanghani (2016) and Sanghani (2016a) investigated Hindustan Petroleum Ltd and Cement Corporation of India respectively for HRA disclosures. The content analysis and other statistical techniques used by the researcher revealed that these companies disclosed a great amount of information and there is a direct relationship between the HRV and employee cost and total assets. Sarkar, Alam and Ali (2016) reported disclosure practices in Bangladesh to be significantly related to company category, size, earnings, and age of the company using a dichotomous HRAD index. Sindhu and Singh (2018) examined the relationship between HRA disclosure and company characteristics in Indian companies using a 16-item dichotomous HRD scale. They reported that except for compensation, no other characteristic of the companies affected the HRA disclosure. Hussain and Das (2018) in their multiple industry research study used 76 item disclosure index divided into eight themes and found no significant difference in HR disclosure in different companies. Monteiro et al. (2019) conducted a bibliometric analysis of HR disclosures in the published papers from 2000 to 2019 in the journals for the Web of Science database. Their research reported content analysis to be the most used technique in these primarily empirical papers, concentrated mostly in the last four years and reported mostly on the extent and quality of HR disclosures, safety, occupational health, and diversity. Surdu, Caliskan and Esen (2020) investigated HR disclosures in 54 Turkish insurance companies from 2007-17 applying an index of eight dimensions such as health and safety, minorities and women employment, training, remuneration, etc., and related it to company characteristics. Their results indicated that training is the most reported item by these companies and company characteristics have an impact on HR disclosures.

Aggarwal and Verma (2020) examined the extent of HR disclosure practices in selected Indian companies using a 91-item HR disclosure index and related different company characteristics to the index using regression analysis and other statistical techniques. The researchers concluded that different companies have reported on the HRD index differently with no significant difference between public and private companies on disclosure. Pham et al. (2021) used an unweighted 32-item HRD index to examine the

corporate determinants of HRAD level in Vietnamese listed companies. Their study revealed low HRA disclosures by Vietnamese companies and found significant relationships between the HRA disclosure and the size and ownership of the companies. In a more recent and significant study, Aminu (2022) summarized sixteen HRD research papers using different HRAD indexes and stated that most HRDI used by HRA researchers are unweighted and dichotomous. Analysis by the researcher revealed that the indexes developed or used in these studies are dichotomous and unweighted disregarding the amount of disclosure on a particular item of information and its relative importance to the stakeholder or users of information. Aminu severely criticized the practice of using such unidimensional indexes and strongly urged the development of an alternative HRAD index that is weighted and not dichotomous.

A great barrier to the acceptance of the HRA implementation by the companies has been the lack of clear understanding of the relevant measurements, which further is added by uncertainties about the standards reporting practices and availability of reliable disclosure indexes (Verma & Dewe, 2008). There have been some attempts to measure the extent of HRA disclosure (HRAD) using the Indexes designed mostly based on the existing literature or the items appearing in existing annual reports of the companies in consideration (Akintoye et al., 2016; Al-Mamun, 2009, Ali et al., 2020), but none of the attempts tapped the ‘weight’ or relative importance of the items of HRAD Index, leaving the disclosures measured or linkages investigated somewhat incomplete. Not all the items of HR disclosures are equally important for the external users in their decision-making, therefore their relative importance or ‘depth’ should also be taken into consideration while reporting the HRAD (Aminu, 2022). Recognizing the absence of and need for such a weighted index, this paper attempts to fill this gap in the field of HRA research by developing an HRAD index that provides the relative importance of each item of HRAD, so that the disclosures by the companies might be measured objectively and completely with the required ‘depth’ of each item of disclosure.

## RESEARCH OBJECTIVES

The primary aim of this paper is to develop and present a weighted HRA disclosure index that includes the weights of the individual HR disclosure items for measuring the HRA practices and disclosure by the companies. To exemplify the application of the proposed weighted HRAD index in intra-company and inter-company comparisons, the index is also applied (through a selective comparative analysis) to Infosys and MMTC,

two prominent Indian companies representing private and public sectors.

## RESEARCH METHODOLOGY

This research paper primarily applied a mix of theoretical and empirical methods to propose a weighted HRAD Index. To prepare the index, the first stage of the research included an extensive secondary data-based survey of existing theoretical and research literature and annual reports of seventy companies consisting of an equal number of companies from the public and private sectors. Selection of the items in the Index has been made based on the “usefulness” criterion generally applied in financial reporting. Items selected have been assumed to be relevant and useful to the users of the information in making sound economic decisions and therefore suggested to be reported by the companies in their published annual reports. The content analysis resulted in an initial Index consisting of 28 items (with all possible sub-items, a total of 42) of useful information on human assets. However, all these items may not possess equal importance to the users.

The second stage focused on deriving and adding weights to the items of HRAD for which a primary data-based survey has been conducted. In this stage, the relative importance of each item has been assigned through a proper scoring system from the data collected from 75 random investors, representing institutional and individual users of the information on a scale of 0 to 3, where 3 represents the most important item, 2 stands for the important item, 1 is for the moderately important item, and 0 is given to the unimportant item. Based on the responses received, the average score for each item has been computed by dividing the total of a given item by the total number of responses received for that item. The average score of each item has been used to denote the relative importance of that item. The total average score, computed by totaling individual average scores, represents the “Maximum Applicable Score” which measures the maximum amount of the HRA information which could be presented in an annual report.

The above mentioned two stages resulted in a weighted HRAD Index presented in the next section. Though the primary aim of the paper is to propose the weighted HRAD Index, it has been deemed desirable to also demonstrate the applicability of the designed Weighted HRAD index in capturing the differences in intra and inter-company HRAD practices and to show the improvements in the quality of information disclosed. For this, the proposed index has been applied longitudinally and horizontally to two

most prominent Indian companies in the field of HRAD research in India, Infosys and MMTC for selective years using the content analysis technique. These two companies have been repeatedly referred to in human resource accounting literature for following the HRA disclosures in their annual reports (Bhattacharjee & Das, 2022; Ganesha, 2015; Habiburrochman & Irawati, 2021; Nagtilak & Kadam, 2019; Puri, Sharma & Kumar, 2016; Reeta, 2017). For demonstrating the effectiveness of the index in intra-company comparisons, the proposed weighted HRAD Index has been applied to Infosys for three years 2001-02, 2011-12, and 2021-22 with a gap of ten years in between, and also for 2013-14 (year of discontinuing HRA by Infosys). This enables it to cover a span of 20 years, significant enough to capture the change in trends of reporting by Infosys. The year 2013-14 has been considered an important breaking point since it's the year when Indian companies have been exposed to the new Companies Act, 2013 and Infosys decided to discontinue many of its HR information items. Similarly, facilitation of the intercompany comparisons through the index is demonstrated by applying the index to Infosys and Metals and Minerals Trading Corporation of India (MMTC) for two years 2011-12 and 2021-22 covering a period of 10 years. MMTC Annual report 2020-21 is used as a proxy for 2021-22 due to the unavailability of the report.

Infosys is amongst India's Best Employers (Infosys Annual Report, 2021-22) and is known for acknowledging its human resources, providing information more than statutorily required, and reporting HRA information in its annual reports. It's a pioneer global technology services company that started with 7 people and a borrowed seed capital of US \$ 250 in 1981 as Infosys Consultants Pvt. Ltd., changed to a public limited company in 1992 as Infosys Technologies Ltd. Though 90% of its turnover is accounted by software and IT consulting, today Infosys diversified into financial services and insurance, retail, logistics, communication, telecom, media, and many more. The company emphasizes that employees are its most valuable assets and accredits its success largely to its human resources. Today, Infosys is a top employer in 22 countries across Europe, the Middle East, Asia Pacific, and North America and is ranked number one in India (Infosys Annual Report 2021-22). MMTC on the other hand is India's largest public sector trading company handling the export and import of primary (such as coal, iron ore), ferrous and nonferrous metal, and agricultural fertilizers. Known as a Miniratna, the company is the largest international trading company that earns the second highest foreign exchange for India. MMTC is quite popularly quoted by many researchers (Ganesha, 2015; Hiremath, 2021) as reporting HRA in its financial statements in the public sector, and applying the proposed index has been assumed to have an assessment of

the disclosure practices of MMTC.

## RESULTS AND DISCUSSION

The first two stages of the research included an extensive survey of the annual reports of seventy companies (equally from the public and private sector), and existing literature, analyzing and compiling the contents of the index, conducting a survey about the usefulness of each item of the index, and assigning weights to individual items of the index. This has resulted in a weighted HRAD Index which is presented in Table 1.

**Table 1: Weighted HRA Disclosure Index with Weights**

Sr. No.	Items	Weights (Average Scores)
<b>Group A</b>	<b>Information on Employees Relations and Welfare Activities</b>	
1	Total number of employees along with proper categorization: a) Current year's information b) Previous five years' information	2.28 1.44
2	Employees qualifications	1.96
3	Average age of employees in different categories	1.28
4	Different amenities provided to employees: a) Educational b) Medical benefits c) Conveyance and Transport/Vehicle loans d) House building/loans e) Others e.g. sports, canteen, recreational facilities, etc.	1.8 1.6 1.56 1.6 1.56
5	Industrial relations (e.g. disputes strikes and lock-outs, etc. )	2.56
6	Wage settlements	2.44
7	Welfare of employees from weaker sections of society	1.8
8	Resettlement of employees	1.6
9	Employees' participation in management	2.48
10	Employees counseling and well-being schemes	2

Sr. No.	Items	Weights (Average Scores)
11	Employees' suggestions and Communication system	2.12
<b>Group B</b>	<b>Information about Human Resource Development</b>	
12	Training programs	2.48
13	Human resource development systems employed by the company (e.g. performance appraisal systems, career path systems, succession planning, recruitment role analysis, etc.)	2.16
14	Plans, programs, workshops, and continuing education to promote skill, effectiveness, and morale of employees	1.92
15	Training and human resource development institute	1.6
16	Safety and work environment	2
17	Employment policy	1.8
18	Wage and promotion policy	1.88
19	Retirement benefits, voluntary retirement, and pension schemes	1.78
<b>Group C</b>	<b>Information on Human Asset Value, Expenditure, and Ratios</b>	
20	Payments to employees:	
	Break-up of expenses incurred on employees such as salaries, wages, and allowances	2.08
	Bonus, pension, family pension, ESI contribution gratuity, provident fund schemes, etc.	2.12
	Increase in total payments over last year	1.72
21	Training and development expenses:	
	Technical and managerial training expenses in total	2.24
	Break-up of training expenses according to the categories of employees and institutions	1.94
22	Total value of human resource	2.44

Sr. No.	Items	Weights (Average Scores)
23	Method followed for valuation of human resource	2.12
24	Category-wise division of human resource values	1.92
25	Earnings per employee and its application in fixed assets, current assets, and human assets	2.24
26	Present value of future human earnings per employee	1.8
27	Value added per employee	2.04
28	Human resource cost and productivity ratios:	2.52
	a) Total cost of human resources	2.12
	b) Cost per employee	2.04
	c) Capital invested to human resource	1.84
	d) Turnover to human resource	2.12
	e) Value added to human resources	1.96
	f) Sales to human resources	2.32
	g) Profit to human resources	2.32
	Total Average Score	83.28

Groups A and B contain non-monetary or qualitative information and Group C includes monetary or quantitative items of information. Group A provides general information about employees, welfare amenities, employee relations, and communication systems. Group B includes information on training and development programs, work environment, and personnel policies. Reporting on these non-monetary information items (along with monetary variables) has been advocated by researchers and accounting/management bodies alike (Flamholtz, 1974; Ogan, 1976; Starovic & Marr, 2003) to enable subjective assessments and decisions by the users. The American Accounting Association's definition of HRA also does not exclude the inclusion of non-monetary data in published annual reports of the companies. Group C contains the items of monetary and quantitative information about human asset expenditure, valuation, and ratios and has been assigned the most importance by the users, indicating that the organization must give the HRA and in particular HR value, expenditure and ratios due importance in reporting. In terms of importance, Group A, containing information on employee relations and welfare

activities, is the second preferential group of information by the users, followed by Group B. The items selected in the index cover almost all aspects of human resource accounting and reporting. They are supposed to be useful and relevant to different user groups such as investors, creditors, shareholders, managers, employees, financial institutions, researchers, Government, and other interested parties. As a whole, they are more than what is conveniently presented in the annual reports of the companies.

Application of the weighted HRAD index revealed that Infosys not only claimed that its strategic strength lies in its intellectual capital but also placed its people as its valuable assets in its balance sheet until 2012-13. Though no accounting standard, Indian or International, required the company to do so, the company voluntarily followed human resource accounting and reported the value of its human resources through unaudited financial reports, following Lev and Schwartz model of human resource valuation (that uses the present value of future earnings to compute human resource value), in addition to the other nonmonetary HR disclosures. Table 2 presents the values of HR and other information reported by Infosys for the selected years.

**Table 2: HRA Disclosure by INFOSYS**

Year	No. of Employees	HR Value (Rs in Cr.)	Total Employee Cost (Rs in Cr.)	Key Ratios				
				Total Software Rev./HRV	Value Added/HRV	Value of HR per Employee	Employee Cost/HRV (%)	Return on HRV (%)
2001-02	10738	9539.15	1117.87	.27	.23	.89	11.72	8.47
2011-12	149,994	125,717	-	-	-	-	-	-
2013-14	1,60,405	-	-	-	-	-	-	-
2021-22	314,015	-	-	-	-	-	-	-

Source: Compiled by the author from the Annual reports of Infosys.

Table 2 shows that there has been exponential growth in the terms of the HRV, and the number of employees from 2001 to 2011-12. The company provided many useful ratios in its annual reports till 2011. In the 2012 annual report the company switched over to HRV instead of HRA information and from 2013-14, it stopped providing quantitative

information on its valuable human resources despite its constant building up of intellectual capital.

The Weighted HRA Disclosure Index has been applied to the annual reports of Infosys and MMTC to establish its applicability for intra-company comparisons. A thorough search of the annual reports of the company showed that Infosys reports not only monetary evaluations of its human resources but also many other non-monetary and qualitative information in its annual reports. The results of the application of the Index are presented in Table 3.

**Table 3: Disclosure Results of Weighted HRAD Index in INFOSYS and MMTC**

Groups of Information (Average Score)	Infosys						MMTC			
	2001 - 02		2011 - 12		2021 - 22		2011 - 12		2020 - 21	
	Disclosure (Total)	Disclosure (%)	Disclosure (Total)	Disclosure (%)	Disclosure (Total)	Disclosure (%)	Disclosure (Total)	Disclosure (%)	Disclosure (Total)	Disclosure (%)
Group A (30.08)	21.68	72.07	16.44	54.65	20.8	69.14	18.08	60.10	16.64	55.31
Group B (15.62)	13.74	87.96	15.62	100	13.82	88.47	10.22	65.43	10.34	66.19
Group C (37.58)	23.2	61.73	15.62	100	0	0	7.88	20.96	7.88	20.96
Maximum Applicable Score (83.28)	58.62	70.39	50.42	60.54	34.62	41.57	36.18	43.44	34.86	41.85

Source: Compiled by author from the annual reports of Infosys and MMTC.

Intra-company comparisons for Infosys show that the overall or the Maximum Applicable Score of HRAD for Infosys is continuously falling since 2001 showing a downward trend in HR reporting. Group-wise comparisons show that the monetary or quantitative information relating to HRV, HR expenditure, and ratios about HR (Group C) shows the same trend. Content analysis of the annual reports revealed that in 2011-12 the company changed the pattern of HRA reporting and disclosed only the HRV in its annual report. Post 2013-14, there has been

no HRA information in this category by the company as the company discontinued reporting of even human resources value and instead opted to present only qualitative information relating to the employees' strength, revenue growth, functional classification, gender-wise classification, age profiles in a separate additional information segment of its annual report, community participation, employee well-being, engagement, and work-life balance programs for its professionals. The non-monetary qualitative information in Groups B and C persisted in varied ratios in the annual reports of Infosys showing different trends in HR reporting by the company on these categories. Reporting on training, development, work environment and personnel policies (Group B) has always been more prominent than the general information about the employees, welfare, well-being, relations, and communication (Group A) by the company for the years in consideration. MMTC also showed similar trends in reporting over the period for the maximum applicable score and Group C, i.e. there has been a constant fall in the amount of HRA disclosure by MMTC overall as well as in Group C whereas, Group B information has always been more than Group A information.

Inter-company comparisons between Infosys and MMTC reveal that the scale of overall HRA disclosure of MMTC has been lower than Infosys in 2011-12 and almost equal in 2021-22. Both the companies are not producing any valuation for their human resources but MMTC managed to fare well in Group C (Monetary: HRV, HR cost and ratios) than Infosys. In 2011-12, MMTC provided more information in Group A (Non-monetary: general information, welfare, relations, and communication) and less in Group B (Non-monetary: training, development, work environment, personnel policies) than Infosys whereas, in 2021-22, Infosys provided more information in both the groups than MMTC. Overall, the suggested index captured differences in the HRAD and reporting practices of Infosys and MMTC.

## MANAGERIAL IMPLICATIONS

The index opens up possibilities and opportunities for the HR managers in particular and the management in general in measuring and comparing the volume and quality of disclosure of their most prestigious and strategic resource, their people. It provides a measure of HRA disclosure that may be leveraged by the managers to depict the attention and concern paid to their employees to the stakeholders who in a globalized environment are more concerned about the working conditions and treatment of employees. Some researchers even view the inclusion of dimensions of HR disclosures

in reports as an extension of a company's corporate social responsibility (Monteiro et al., 2021). Information produced by the index will be helpful to the managers to justify their standpoint in this regard. Moreover, the index also highlights the quantitative and qualitative information items considered important by the investors and other users, guiding the managers about the area that might be focused upon while deciding about the disclosure policies and practices. It might also encourage the companies that discontinued quantitative HR information in their annual reports, such as Infosys, to reconsider their decision for the benefit of stakeholders or to improve the existing HR disclosures, particularly in favor of that information that is viewed as important.

Application of the index will help the organizations and HR managers to understand where they stand in comparison to others organizations in terms of their HR disclosures considered important by the stakeholders and decide about the corrective actions if required. This becomes more important in today's high-speed, highly accessible, and highly challenging global work environment. Recently, many international organizations such as the United Nations, the Organization for Economic Cooperation and Development, the European Union, the Global Reporting Initiative, the International Organization for Standardization, and the International Integrated Reporting Council advocated the disclosure of employee-related information as a measure of a company's commitment towards its employees (Monteiro et al., 2021). In line with these suggestions, the proposed index might be used by managers and companies to enhance their overall as well as group-wise HR disclosures in their annual reports.

Finally, the disclosure trends among companies or industries over time may also be identified using the proposed index. It measures the HRAD under three different groups or categories of information. As the index facilitates both the relative and absolute measures of disclosure, it's capable of mathematical calculations and statistical applications, promising better research in terms of the quality of results. The proposed index will be useful for human resource managers, users, and HRA researchers in improving the quality of their decisions and measurements.

## CONCLUSION

This research paper aimed at developing a weighted HRA disclosure index that is capable to measure different dimensions of HRA disclosures by organizations. The index finally constituted covered items on the cost and value of human resources, as well as qualitative and non-monetary

'useful' HR information. This study in particular contributes to the limited research on the development of a weighted HRAD Index, serving as a dedicated pioneering effort in this direction by providing a weighted and multidimensional measurement that is an improvement over the present unweighted or unidimensional indexes used by the HRA researchers. Researchers have strongly suggested the development of such a weighted multidimensional index (Aminu, 2022). The proposed index helps in looking beyond the economic values assigned to human resources as the only mean of HRA disclosure and may assist them in viewing the complete picture of disclosure on human resources by also including qualitative information in the assessments. The proposed index is exemplified by applying it to the two iconic companies in India, Infosys, and MMTC. The results show that the index successfully captured a wide variety of HRA information in terms of monetary and non-monetary, quantitative and qualitative, and facets of HRA information over time. The index provided the weights or the 'depth' of the information as well as the 'breadth' of the HR information which might be much more useful than a unidimensional unweighted HRAD index. The index provides a measurement capable of statistical applications to find out significant differences, relationships, or impacts. Companies might also use it as an important information and management tool and might convey the message to the users that the organization is valuing its human resources and taking them at par with other valuable resources of the organization. Applying the index also provides human resource managers with important insights and information helpful in quality decisions.

## SCOPE OF FUTURE RESEARCH

Though the proposed index has been an improvement over the presently used unweighted HRAD Indexes and has been successful in deriving the volume of quality HR disclosure, it is still in its initial stages of development and is not industry specific. Further research to adjust the index according to the industry specifications and requirements will help in improving the proposed index and make it more useful to managers, organizations, and researchers in evaluating HRA disclosures. The index has been exemplified by taking only two companies. Future research might involve applying the index to more companies for their disclosure practices. Moreover, the present study engaged responses only from Indian investors, which is limiting its usage. Given the present global challenges to organizations and HR managers, future research may additionally focus on the opinions and requirements of the international stakeholders and HR

managers for the global application of the weighted HRAD Index.

## REFERENCES

- American Accounting Association. (1973). Report of the committee on human resource accounting. *The Accounting Review (Supplement)*, 47, 169-185.
- American Accounting Association. (1974). Report of the committee on accounting for human resource. *The Accounting Review (Supplement)*, 49, 115-124.
- Aggarwal, K., & Verma, A. (2020). Effects of company characteristics on human resource disclosure index: Empirical evidences from Indian corporates. *Management and Labour Studies*, 45(1), 85-117.
- Akintoye, I. R., Ifayemi, M. O., Awoniyi, O. J., & Ifayemi, M. O. (2016). Improvement of human resource accounting disclosure practice in financial statements through IFRS: Evidence from Nigerian banks. *International Journal of Business and Commerce*, 5(7), 1-17.
- Al-Mamun, S. A. (2009). Human resource accounting (HRA) disclosure of Bangladeshi companies and its association with corporate characteristics. *BRAC University Journal*, 1(1), 35-43.
- Ali, M., Hossain, M. S., and Anik, R. H. (2020). Determinants of human resource accounting disclosure: An analysis on Dhaka Stock Exchange (DSE) listed financial institutions. *The Jahangirnagar Journal of Business Studies*, 9(1), 181-196.
- Aminu, R. (2022). Human resource accounting disclosure index: The need for an alternative approach. *International Journal of Multidisciplinary and Current Educational Research*, 4(1), 251-254.
- Asika, E. R., Chitom, J. R., & Chelichi, I. F. (2017). Appraisal of human resource accounting on profitability of corporate organization. *Economics*, 6(1), 1-10
- Bhattacharjee, A., & Das, D. (2022). Human resource accounting practices in India and across the globe: A systematic review. *Finance India*, 26(2), 621-650.
- Bonsu, O. M., Dui, L. K., Ruiwen, L., Asare, E. K., & Prempeh, A. F. S. (2019). Exclusion of human resource accounting in statement of financial position and its effects on performance: Empirical evidence of Ghana. *Business and Economic Research*, 9(2), 1-17.
- Brummet, R. L., Flamholtz, E. G., & Pyle, W. C. (1969). *Human resource accounting: Development and implementation in industry*. Braun and

Brumfield Inc., Michigan.

- Conner, K. (1991). A historical comparison of resource-based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm? *Journal of Management*, 17(1) 121-154.
- Dominguez, A. A. (2011). The impact of human resource disclosure on corporate image. *Journal of Human Resource Costing and Accounting*, 15(4), 279-298.
- Flamholtz, E. G. (1974). Human resource accounting: A review of theory and research. *The Journal of Management Studies*, 2(1), 44-61.
- Ganesh, K. S. (2015). Study of human resource accounting practices. *IOSR Journal of Business and Management*, 17(1), 22-24.
- Guthrie, J., Petty, R., & Johanson, U. (2001). Sunrise in the knowledge economy: Managing, measuring and reporting intellectual capital. *Accounting, Auditing and Accountability Journal*, 14(4), 365-382.
- Habiburrochman, & Irawati A. S. D. (2021). The measurements of human resources accounting: The applications and challenges in facing the industrial revolution 4.0. *Review of International Geographical Education*, 11(4), 430-445.
- Hiremath, S. D. (2021). A study on human resource accounting practices in India. *International Journal of Science and Research (IJSR)*, 10(7), 1264-1267.
- Huang, C. C., Abidin, Z. Z., & Jusoff, K. (2008). External reporting of human capital in Malaysia. *Asian Social Science*, 4(8), 3-11.
- Hussain, A., & Das, D. (2018). Extent of human resource disclosure in annual reports of companies listed on Indian Stock Exchange. *International Journal of Computational Engineering and Management*, 21(5), 33-44.
- Ijeoma, N., & Aronu, C. O. (2013). Effect of human resource accounting (HRA) on financial statement of Nigerian Banks. *International Journal of Advancements in Research and Technology*, 2(8), 342-347.
- Infosys Technologies Ltd. (2001-2002). Infosys Annual Report. Retrieved from <https://www.infosys.com/investors/reports-filings/annual-report/annual/documents/infosys-ar-02.pdf>
- Infosys Technologies Ltd. (2011-2012). Infosys Annual Report. Retrieved from <https://www.infosys.com/investors/reports-filings/annual-report/annual/documents/infosys-ar-12.pdf>
- Infosys Technologies Ltd. (2013-2014). Infosys Annual Report. Retrieved

- from [https://www.infosys.com/investors/reports-filings/annual report/annual/documents/infosys-ar-14.pdf](https://www.infosys.com/investors/reports-filings/annual%20report/annual/documents/infosys-ar-14.pdf)
- Infosys Technologies Ltd. (2021-2022). Infosys Annual Report. Retrieved from [https://www.infosys.com/investors/reports-filings/annual report/annual/documents/infosys-ar-22.pdf](https://www.infosys.com/investors/reports-filings/annual%20report/annual/documents/infosys-ar-22.pdf)
- Jensen, H. (2001). Policy and company perspectives for IC reporting. *Journal of Human Resource Costing and Accounting*, 6(1), 11-28.
- Kaur, S., Raman, A. V., & Singhania, M. (2014). Human resource accounting disclosure practices in Indian companies. *Vision: The Journal of Business Perspective*, 18(3), 217-235.
- Kodwani, A. D., & Tiwari, R. (2007). Human resource accounting - A new dimension. Canadian Accounting Association (CAAA) 2006 Annual Conference. Retrieved from <http://dx.doi.org/10.2139/ssrn.961570>
- Lin, L. S., Huang, I. C., Du, P. L., & Lin, T. F. (2012). Human capital disclosure and organizational performance: The moderating effects of knowledge intensity and organizational size. *Management Decision*, 50(10), 1790-1799.
- Mallik, R. K. (1993). Human resource accounting and decision making. New Delhi: Anmol Publishing.
- Meena, R. K. (2021). Human resource accounting disclosure practices in India. *Inspira-Journal of Commerce, Economics & Computer Sciences*, 7(2), 14-17.
- MMTC Ltd. (2011-12). MMTC Annual Report. Retrieved from [https://mmtclimited.com/files/.pdf/84\\_MMTC%20ENGLISH%20%20Annual%20Report%202011-12.pdf](https://mmtclimited.com/files/.pdf/84_MMTC%20ENGLISH%20%20Annual%20Report%202011-12.pdf)
- MMTC Ltd. (2020-21). MMTC Annual Report. Retrieved from <https://www.bseindia.com/bseplus/AnnualReport/513377/72769513377.pdf>
- Monteiro, A. P., Aibar-Guzman, B., Garrido-Ruso, M., & Aibar-Guzman C. (2019). *Employee-related disclosure: A bibliometric review. Sustainability*, 13(10). Retrieved from <https://www.mdpi.com/2071-1050/13/10/5342>
- Nagtilak, A., & Kadam, Y. J. (2019). Study of evaluation of human resource at Infosys Ltd. *Journal of Emerging Technologies and Innovative Research*, 6(6), 645-651.
- Ogan, P. (1976). Application of a human resource value model: A field study. *Accounting, Organizations and Society*, 1(2-3), 195-217.
- Okeke, R. C. (2016). *Human capital accounting: A literature review. Accounting*, 2(1), 1-10.
- Olayiwola, J. A. (2016). Human capital accounting information and firm's

- value: An analysis of selected quoted manufacturing companies in Nigeria (2007-2014). *International Journal of Economics, Commerce and Management*, 4(5), 14-27.
- Oluwatoyin, A. S. (2014). Human resources accounting and disclosure in financial statement: Literature review. *Research Journal of Finance and Accounting*, 5(22), 64-76.
- Patra, R., & Khatik, S. K. (2003). Human resource accounting policies and practices: A case study of Bharat Heavy Electricals Limited, Bhopal, India. *International Journal of Human Resource Development and Management*, 3(4), 285-296.
- Pham, D. H., Chu, T. H., Nguyen, T. M. G., Nguyen, T. H. L., & Nguyen, T. N. (2021). Determinants of human resource accounting disclosures: Empirical evidence from Vietnamese listed companies. *Journal of Asian Finance, Economics and Business*, 8(7), 129-137.
- Puri, V., Sharma, B. C., & Kumar, M. (2016). Voluntary human resource disclosure practices of selected listed Indian IT Firms. *Drishtikon: A Management Journal*, 7(2), 80-104.
- Reeta. (2017). Human resource accounting practices in private sector companies in India (with special reference to Infosys). *International Journal of Engineering and Management Research*, 7(3), 95-101.
- Sanghani, A. R. (2016). Human resource accounting practices in Hindustan Petroleum Corporation Limited. *Indian Journal of Applied Research*, 6(2), 621-623.
- Sanghani, A. R. (2016a). An analysis of human resource accounting practices in Cement Corporation of India. *Indian Journal of Applied Research*, 6(3), 439-442.
- Sarkar, S. H., Alam, A., & Ali, I. (2016). Human resource accounting disclosure practices in Bangladesh. *Australian Journal of Accounting, Economics and Finance*, 2(2), 100-113.
- Sindhu, R., & Singh, S. (2018). Human resource accounting and disclosure practices in Indian Corporate Sector. *International Journal of Creative Research Thoughts*, 6(2), 1498-1505.
- Starovic, D., & Marr, B. (2003). *Understanding corporate value: Managing and reporting intellectual capital*. Chartered Institute of Management Accountants London.
- Surdu, F. B., Caliskan, A. O., & Esen, E. (2020). Human resource disclosures in corporate annual reports of insurance companies: A case of developing country. *Sustainability*, 12(8). Retrieved from <https://www.mdpi.com/2071-1050/12/8/3452>

- Ushie, O. S. (2018). Human asset accounting and its impact on the performance and financial position of firms: A study of selected companies. *Account and Financial Management Journal*, 3(8), 1703-1712.
- Verma, S., & Dewe, P. (2008). Valuing human resources: Perceptions and practices in UK organizations. *Journal of Human Resource Costing and Accounting*, 12(2), 102-123.
- Yadav, P., & Gite, P. (2015). Human resource disclosure practices in Indian commercial banks. *Pacific Business Review International*, 7(9), 69-75.