

Quantification of Human Resources: A Systematic Review of HR Accounting in India

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Abstract

Human Resources Accounting (HRA) is the process through which human resources of an organization are measured and valued. The present study is a systematic review of the current status and significance of HRA in Indian companies as well as exploring the influencing factors of HRA. The study helps to identify research gaps which can help in framing objectives for future research. The review can be beneficial to decision-makers of Indian companies to direct further implementation of HRA based on existing limitations and challenges. Furthermore, the findings related to the impact of HRA can inspire organizations to amplify the implementation of HRA practices. The findings can also be a reference for behavioural scientists and management researchers in advancing interdisciplinary research in human resources accounting.

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Introduction

In today's world of globalization and competition among organizations, quantification of human resources is significant through inter disciplinary measures associating HRM with data from accounting, finance, economics, and behavioural science. An economic interpretation of HRM activities is beneficial as it aids in monitoring findings and facilitating changes. This is the major purpose behind conceptualization and implementation of Human Resource Accounting (HRA). Research of human resource accounting is gaining momentum in human resource management. The American Accounting Society Committee on Human Resource Accounting (1973) defined Human Resource Accounting (HRA) as the process of identifying and assessing data related to human resources and conveying it to the interested parties. HRA is the quantitative assessment of human organizational processes like recruiting, training, experience, and commitment (Knauf, 1983). Similar to financial accounting, human resource accounting regards employees and attributes of human resources as capital of the organization and relates to accounting of investment in employees and their replacement costs. The model of HRA proposed by Lev and Schwartz conceptualizes HRA as the process in which the future earnings of the employees until their retirement is aggregated and discounted at the cost of capital to arrive at the present value (Kanade and Harwani, 2018). In short, HRA regards employees as having economic value in the organization (Narayanan, 2010).

The concept of human resource accounting had its inception in a paper published by Brummet, Flamholtz, and Pyle in 1968.

Human resource accounting was first proposed to be significant in financial reporting by Rensis Likert, an organizational psychologist and founder of the University of Michigan Institute of Social Research. HRA was initially termed as human asset accounting by Likert. In a research article by Dermer and Siegel (1974), the authors mentioned the reason why Likert formulated the concept of HRA. Likert was concerned about the fact that managers gave emphasis only to the measures of sales and profits, and not to the socio-psychological implications from the employees' perspective. In order to bring these behavioural variables into the attention of managers, a system to quantify these variables was inevitable, so that a precise assessment of these factors can be executed. With this objective in consideration, Likert introduced the system of human resource accounting (Dermer and Siegel, 1974). Later, as an initiative in authorizing HRA, the American Accounting Association (AAA) in 1981, formed the body of Accounting, Behavioural, and Organization (ABO) (Buchanan and Cao, 2014).

The history of HRA has been categorized into five stages by Flamholtz based on developments since 1960. It begins with the operationalization of HRA terminology (adopted from economics and organizational behaviour), followed by model development and application in organizations, later a decline in HRA implementation (due to constraints to include it in financial statements), and re-emerging demand in the present context (Sood, 2016).

HRA indicates the need to include intangible assets related to human resources in the financial statements of a company. Such assets are considered as intellectual capital and include measures of innovation, attitude of employees, assessment of turnover, absenteeism, and experience. Intangible assets are categorised as discovery intangibles, customer-related intangibles, human-resource intangibles, and organizational capital (Kashive,

2013; Lev, 2001). Similarly, the major determining factors of intellectual capital are identified as value-added based on structural capital on human assets, human capital in form of expenditure on workforce, and capital employed consisting of material assets of a company (Sen, 2016). While explaining about HRA, Flamholtz (1979) adopted a psycho-technical system approach in which he mentioned that HRA possesses two functions. One function is the presentation of quantitative data while a more significant function is served by the process of measurement itself. The practice of accounting for human resource information enhances the long-term productivity and development of the organization by augmenting the recognition of the workforce and their contributions to the company's growth (Kashive, 2013). Valuation of human resources and inclusion of HRA in the accounting system of organizations enable managers to perceive employees as the most significant assets of the company and thereby to adopt a human centric perspective while making decisions for the organization (Bullen, 2007).

The major objectives of HRA are to formulate quantitative information regarding the cost and value of the workforce and conceptualize an analytical framework that helps in decision-making that adopts a human resource perspective (Flamholtz, Bullen, and Hua, 2002). HRA enables companies to obtain information regarding the cost of developing human resources and employee turnover and return on investment (ROI), along with facilitating better decision-making related to investment and employee management (Pandurangarao, Basha, Rajasekhar, 2013). From the perspective of employees, implementation of HRA improves the efficiency and overall performance of the workforce. Though there are so many debates ongoing regarding the need for HRA, once the presenting challenges are overcome and HRA systems are formulated and implemented efficiently,

HRA can have a paramount influence over the overall growth and effectiveness of organizations.

The present systematic review attempts to identify and synthesise research on human resource accounting practices implemented in Indian companies. As reported by the Indian Planning Commission under the India Vision 2020, Indians are evolving to be pioneers in education and several other domains, which makes human resources the most potential assets of Indian economy (Kansal and Joshi, 2015). Provided employees are emerging as the important resources of companies, it is necessary that information regarding employees are reported in the financial statements. It will enhance the satisfaction of employees by providing them the sense of being valued, which increases their commitment towards the organization. Once the employees feel like they are given prominence in the company as stakeholder, their performance will be improved. As a developing country, an improved performance and efficiency of organizations will boost the economy and development of the nation (Kansal and Joshi, 2015).

It could be observed from existing literature that HRA is given increased acceptance and inclusion in annual reports of Indian companies. However, the country still lacks general guidelines and standards when it comes to the application of HRA, along with a lack of proper awareness about the need if HRA in improving organizational effectiveness. Thus, it is necessary that existing literature is examined in detail to identify the potential implications and significance of HRA so that it could be used as a reference to promote the implementation of HRA. Specific focus will have to be given to the studies from India that explore various aspects of HRA, including its necessity, challenges associated with its implications, and the positive impact of HRA inclusion on employee satisfaction and overall

effectiveness of organizations. This will encourage remaining companies to consider the practice of HRA more seriously and gives them a better understanding about its enabling and limiting factors. Stakeholders can also understand the various possibilities or methods of HRA implementation, including the different models that could be adopted according the structure and nature of their company.

Furthermore, a detailed exploration of the literature will also enable to identify the research gap that need to be addressed in subsequent studies. As an emerging field and practice in Indian companies, HRA provides a wide scope for researchers to conduct rigorous studies with different objectives. However, till present date, studies that examine HRA in the context of India and other developing countries are less, thereby leaving HRA a largely unexplored (Kansal and Joshi, 2015). The existing studies are focusing only on specific sectors or companies, thus narrowing down the scope of HRA studies. Thus, it is necessary that an extensive review of existing literature need to be conducted to identify the discerned themes and possible research opportunities for future.

Pertaining to the above needs and objectives, the present study attempts to conduct a systematic review of research related to HRA practices in Indian companies. The aim of the study is to summarize the literature available on the current status of HRA in Indian companies and to explore the impact and determining factors of effective implementation of HRA on various aspects of employee management and overall organizational growth. The review further extends to a discussion of exploring the scope and possibilities for better execution of HRA in Indian companies and the need for a transformation from the current scenario. Future recommendations for researchers are also presented to strengthen empirical analyses of HRA practices to promote the need for HRA for the effective functioning of

organizations. Through the present systematic review, it will be able to initiate a comprehensive perspective towards the role and relevance of HRA in India and facilitate future researchers in identifying existing research gap. From a practical perspective, the review also helps stakeholders of various companies across India to understand the need for HRA and motivate them to explore the possibilities for future implementation of HRA in their companies.

Thus, the present systematic review attempts to answer the following research questions:

1. What is the current status and significance of HRA in India?
2. Which are the major models of HRA adopted in Indian companies and what modifications are required in the existing system?
3. What is the impact of HRA on various aspects of employee management and organizational growth in Indian companies?
4. Which are the major influencing factors of effective implantation of HRA in Indian companies?

Methods

The following section briefly explains the method adopted for conducting the present systematic review. It includes identification of existing systematic reviews to rationalize need for the study, search strings used, and list of databases used for literature review.

Identification of existing reviews

In order to determine the need for a systematic review of research on human resource accounting in India, identification of existing reviews was conducted. Reviews were extracted using the search strings {human resource accounting} OR

{human resources audit} OR {human resource valuation} AND {systematic review} AND {India}. 6 review papers were identified but none were conducted based on Indian companies and thus were not relevant according to the current review objectives. Hence, the present systematic review is relevant.

Search Strings

The literature review was conducted using combining relevant keywords related to human resource accounting and organizational behaviour implications. Since the intended systematic review has four objectives, the literature review was conducted from a general perspective. Thus, articles addressing various objectives including status of HRA in India, models adopted, and impact on organizational performance and employee management were included for screening and final selection. The keywords were converted to search strings using Boolean operators AND and OR. The keywords used are given in table 1.

Table 1

Keywords used in literature searching

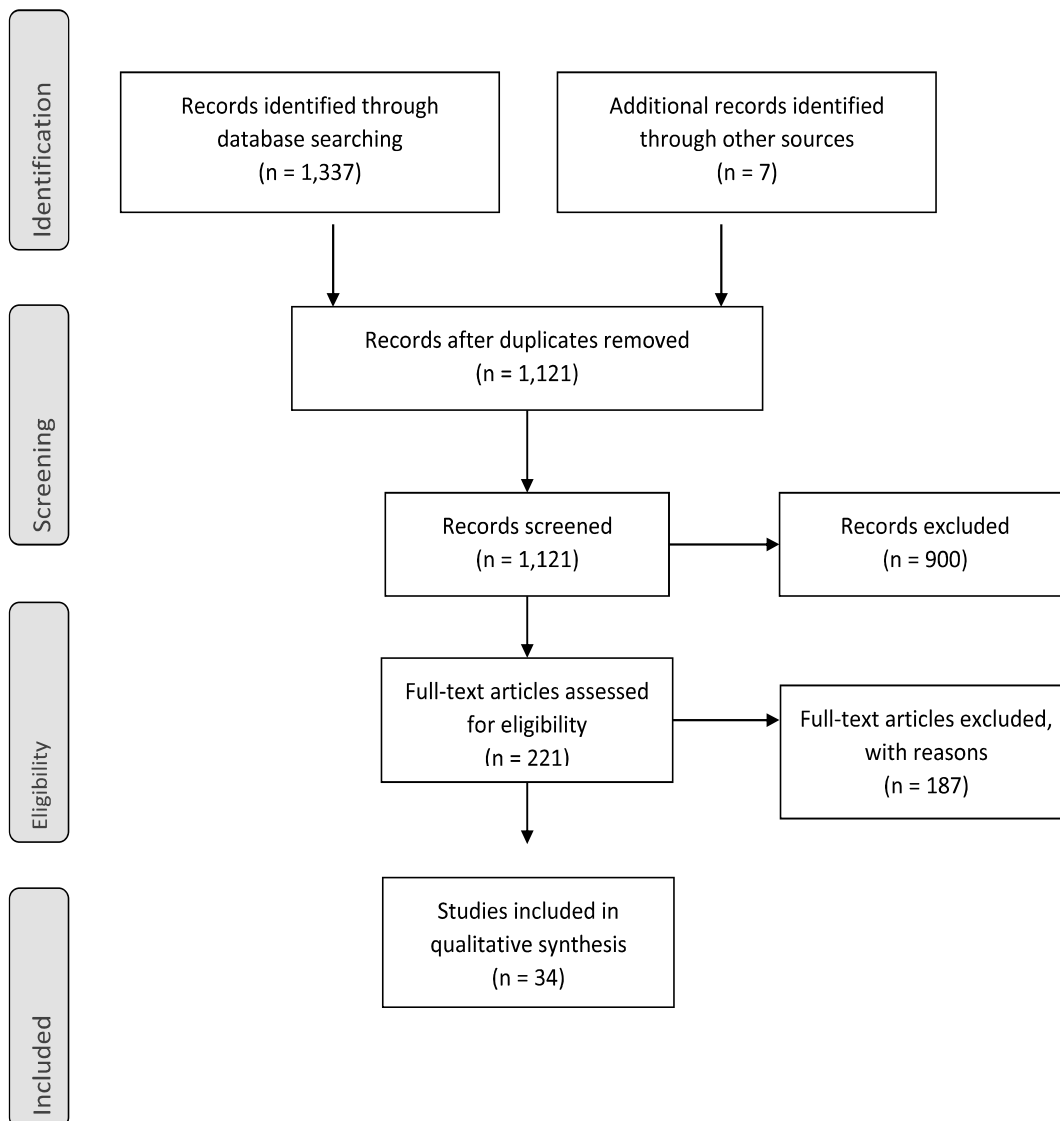
Basic keywords	Associated keywords
human resource accounting	HRA human resource audit Human resource valuation
India	Indian companies Indian enterprises Indian firms
organizational performance	decision-making employee management organizational growth profitability

Selected Databases

The research articles were extracted from journals that are peer reviewed. Apart from journal articles, theses and dissertations were also identified from ProQuest ABI/Inform. The databases used were EBSCOhost, ProQuest, Sage Journals, and JSTOR. Google Scholar was also used for searching for articles. The systematic review was conducted following the PRISMA framework and figure 1 shows the flowchart for the same.

Figure 1

PRISMA flowchart for the present systematic review



Results

The literature search for this systematic review provided 1,344 articles in totals which was reduced to 1,121 after removal of duplicates. Among the 1,121 articles, 900 were removed after screening the title and abstract. The remaining 221 articles were read fully and 187 papers were removed due to reasons such as irrelevant according the objectives of the present review. The remaining 34 articles were selected for the final analysis.

All the articles included in the review are published since 2000 and are studies on system of HRA in Indian companies. Some articles that don't deal with the concerned objectives for the present review are rejected, albeit studied based on HRA in India.

Current Status and Significance of HRA in India

The first research objective was to explore the current status and significance of HRA in Indian organizations. The following studies were identified to be relevant for answering the research question pertaining to this objective.

Table 2

Key concepts identified and corresponding studies

Key concept	Selected studies
Findings related to identifying Indian companies implementing HRA and examining the differences in approach and methodologies adopted by different companies as well as between public and private sector firms	<p>A comparative study of human resource accounting disclosure practices in Indian companies (Gupta, 2018)</p> <p>Review and Reflections on Human Resource Accounting -Indian Perspective (Mathapati, 2018)</p> <p>A Comparative Study of Human Resource Disclosure and Reporting Practices of Selected Public and Private Sector Banks in India (Garg, 2017)</p> <p>Human Resource Accounting Disclosures Practices in Indian Companies (Sharma and Khatik, 2015)</p>

	<p>Measuring employees value: A critical study on human resources accounting in India (Chouhan and Naghshbandi, 2017)</p> <p>A Study on Conceptual Framework of Human Resource Accounting in India (Prajapathi, Singh, and Vahoniya, 2016)</p> <p>Role of Human Resource Accounting in India (Sood, 2016)</p> <p>A study on human resource accounting methods and practices in India (Pandurangarao, Basha, Rajasekhar, 2013)</p> <p>Importance of human resource accounting practices and implications of measuring value of human capital: Case study of successful PSUs in India (Kashive, 2013)</p> <p>Human resource accounting in India: An overview (Tiwari, 2012)</p> <p>Human Resources: Its Valuation and Disclosure Practices in Nifty-based Companies of India (Pandey, 2012)</p> <p>Human resources accounting practices in Indian banking: An exploratory study (Prasad and Patel, 2011)</p> <p>Human resource accounting practices in Indian companies (Agarwal, 2004)</p>
Studies indicating the lack of guidelines from governing bodies of India for HRA and addressing the need for the same	<p>Human Resource Accounting in Indian Companies-Importance and Challenges (Kalpana, 2016)</p> <p>Human resource accounting in India: An overview (Tiwari, 2012)</p> <p>Human Resource Accounting Practices Adopted in Indian Industries (Seth, 2009)</p> <p>Human Resource Accounting: An Implication for Managerial Decisions in Indian Hotel Industry (Chand and Heera, 2008)</p>

Since the recent past, human resource accounting is evolving to be significant in both public and private organizations in India. Stakeholders are recognizing the profound impact of HRA on

organizational effectiveness and employee performance, and are expressing an open and positive attitude towards human resource valuation. For instance, it has been identified from a review of the annual reports of hotel industries in India that the financial statements include personal comments by chairpersons about the significance of workforce and the need to regard them as assets of the organization (Chand and Heera, 2008).

However, the major challenge faced by Indian companies is the absence of clear guidelines and precise standard of human resource measurement from the statutory bodies. Neither the International Accounting Standard Committee (IASC) nor the Accounting Standards Board (ASB) legitimized by the Institute of Chartered Accountants of India (ICAI) issued any standards of HRA so far (Chand and Heera, 2008; Seth, 2009). The Indian Companies Act (1956) has not yet mandated inclusion of valuation of human resources in financial statements of organizations (Kalpana, 2016; Tiwari, 2012). Thus, initiatives should be taken from the side of these governing bodies to mandate and specify clear framework for HRA implementation, and to include HRA data as financial statements based on human resources (Ratti, 2012).

Human resources accounting had its inception in India during early 1970s since the inclusion of HRA information in financial reports by Bharat Heavy Electricals Ltd (BHEL) and Steel Authority of India (SAIL). However, the significance of HRA was understood and undertook by Indian companies in 1990 when Infosys, a popular private software company, started accounting for their human resources (Agarwal, 2004). Some of the major Indian companies that have currently included HRA in their financial reports are Bharat Heavy Electricals Ltd (BHEL), Steel Authority of India (SAIL), National Thermal Power Corporation Ltd (NTPC), Engineers India Ltd, Oil and Natural Gas Commissioning (ONGC), Hindustan Shipyard

Ltd, Cement Corporation of India (CCI), Mineral and Metal Trading Corporation of India (MMTC), Oil India Ltd, Southern Petrochemical Industries Corporation Ltd (SPIC), Associated Cement Company Ltd (ACC), Electrical India Ltd, Cochin Refineries Ltd, Sathya Computer Services Ltd, Madras Refineries Ltd, TELCO Project and Equipment Corporation of India, Infosys Technologies Ltd, Tata Engineering and Locomotive Works, Tata Consultancy Services (TCS), and Hindustan Unilever Ltd (Mathapati, 2018; Sharma and Khatik, 2017; Prajapathi, Singh, and Vahoniya, 2016; Sood, 2016; Pandurangarao, Basha, Rajasekhar, 2013; Tiwari, 2012; Agarwal, 2004).

Few researchers have attempted to review the methods and benefits of HRA implementation in Indian enterprises. For instance, in his doctoral thesis, Agarwal (2004) has presented the details regarding HRA practices followed in selected public and private sector companies across India. The reports mention about the methods adopted and significant implications of HRA in organizational growth and performance. The public sector companies reviewed were NTPC, BHEL, SAIL, ONGC, and MMTC. Though HRA had a positive impact on the companies, it was identified that ONGC and NTPC are still implementing HRA while the other three have discontinued. Thus, it is necessary to explore and analyze the challenges met by these companies while practicing HRA and what kind of differences will the inclusion and exclusion of HRA will have on the company's reputation. From the private sector, two companies were studied, which were Infosys Technologies Ltd and Sathyam Computers Ltd. The review reveals that both the companies are still including HRA reports in the financial statements and it has remarkably improved their market value as well as employee retention and worth. Thus, the researcher

identified a disparity in the attitude of public and private sector companies towards HRA. Compared to public sector, the approach of private sector towards HRA is more radical in nature. However, Gupta (2018) identified that public sector adopts better HR disclosure practices than private sector. Similarly, a study on the comparison of HRA practices in public and private sector banks in India also identified that execution of HRA is better in public sector banks (Garg, 2017). Sharma and Khatik (2017) ascertained that while few companies like ONGC has a positive outlook towards HRA, many enterprises like ACC, TCS, and HPCL are apprehensive of HRA disclosure. Besides, Chouhan and Naghshbandi (2015) also empirically determined that significant differences exist in the HRA values obtained from these companies. Thus, the perceptual differences among public and private companies regarding HRA and how it affects their values and implications are to be judiciously examined in further research.

Pandey (2012) analyzed the annual reports of NIFTY-based companies in India and identified that, among the companies, only ONGC includes HRA in their reports. He also revealed that the disclosure practices of HRA data are not precise and more judicious efforts are required from the side of companies. Though his study was conducted only based on NIFTY -based companies, the results cannot be generalized to other companies (Pandey, 2012). However, the findings are relevant to remind companies about the significance and need to incorporate HRA in their annual reports.

On similar grounds, Prasad and Patel (2011) also identified from a study on the banking sector that most of the Indian banks are not aware of HRA practices and thus HRA data is not precisely reported by the banks. On the other hand, a study on public

sector undertakings (PSUs) in India indicated that even though many companies are appreciating the practice and significance of HRA, they are not aware of the tools and methods to practice HRA (Kashive, 2013).

Thus it is identified that though HRA is evolving to be significant in India, proper guidelines and orienting company stakeholders about HRA tools is necessary for more effective implementation of HRA in Indian enterprises. Future researchers should focus on widening the scope and necessity of HRA inclusion in companies. Along with the financial aspects of HRA, the behavioral implications on both organizational and employee effectiveness could also be explored by behavioral researchers. Besides, Indian insurance companies also include socially responsible reporting practices, corporate social reporting, and HR disclosures (Das, 2013). Most of the data is provided as narrative qualitative information. However, inclusion of CSR activities and in Indian and other developing companies is still in exploration stage, and further research is necessary in the field (Das, 2013).

HRA Models Implemented in Indian Companies

The second research objective was to identify the major HRA models adopted in Indian organizations. Identified studies also explores the challenges of existing models and the need for new models as well as formulation of the same. The following studies were identified to be relevant for answering the research question pertaining to this objective.

Table 3**Key concepts identified and corresponding studies**

Key concept	Selected studies
Identification of the Lev and Schwartz Compensation Model as the most widely adopted HRA model in Indian companies	<p>Application of Lev and Schwartz Compensation Model on The Accounting Practices of MCF Limited (Samartha et al., 2019)</p> <p>A Literature Review on Human Resource Accounting (Rani, 2016)</p> <p>Human Resource Accounting - A Case Study with Special Reference to Visakhapatnam Port Trust (Polisetty and Sheela, 2015)</p> <p>Importance of human resource accounting practices and implications of measuring value of human capital: Case study of successful PSUs in India (Kashive, 2013)</p> <p>Human Resources: Its Valuation and Disclosure Practices in Nifty-based Companies of India (Pandey, 2012)</p> <p>Human Resource Accounting Practices in Indian Industries (Ratti, 2012)</p> <p>Human Resource Accounting Practices Adopted in Indian Industries (Seth, 2009)</p> <p>Human resource accounting practices in Indian companies (Agarwal, 2004)</p>
Identification of the implementation of other models such as Flamholtz's Stochastic Rewards Valuation Model and Jaggi and Lau model	<p>A comparative study of human resource accounting disclosure practices in Indian companies (Gupta, 2018)</p> <p>An Insight into Human Resource Accounting Models–Need to Measure Human Resource As a Valuable Asset (Salati, 2015)</p>
Development of a new model for HRA	Innovative model for Assessing Human Assets (Sasirekha, 2011)

The HRA models are categorized into monetary and non-monetary models, among which monetary models consists of cost based and value-based models. There are several cost based and value-based models implemented across companies, among

which Indian companies mainly adopt the Lev and Schwartz Compensation Model for reporting HRA data (Gupta, 2018); Rani, 2016; Polisetty and Sheela, 2015; Kashive, 2013; Pandey, 2012; Ratti, 2012; Seth, 2009). The Lev and Schwartz model, formulated by Branch Lev and Aba Schwartz (1971), falls under the value-based models. Using this model, future earnings of the company are determined by calculating current value of employees (based on class and age) by using capital cost as discount rate (Agarwal, 2004). Samartha et al., (2019) identified that the Lev and Schwartz model is efficient in measuring human resources. However, a challenge the model poses to the companies is that the method adopted by Lev and Schwartz model do not take into account the impact of promotion and death or voluntary retirement of the employees.

Apart from the Lev and Schwartz model, the Flamholtz's Stochastic Rewards Valuation Model is also found to be used in India at SAIL (Salaty, 2015). In this model, initially the employees are grouped according to their designation and age, followed by estimation of remaining years of the employees in the respective position and calculating turnover rate and subsequently the remuneration rate. Finally, the value of employees to the organization is determined based on the years remaining in service, remuneration rate, and employee efficient factor (Salaty, 2015). One advantage of this model is that possibility of vacancies due to transfer is taken into account while estimating the turnover rate. Similarly, Gupta (2018) reported that the Cement Corporation of India (CCI) adopts the Flamholtz's model as well the Jaggi and Lau model for HR valuation.

Though two companies resemble each other based on functioning, the earnings and performance of these companies

may differ according to their work force (Sasirekha, 2011). Employees of different companies cannot be assessed on the basis of same parameters as their work responsibilities, experience, and other estimates of performance will be different. Thus, using a common model to quantify human resources may not always provide precise data regarding human resources of enterprises. Grounded on this perspective, Sasirekha (2011) formulated a model to execute HRA that can be implemented through five stages; fixing weightage and expected standard performance, followed by obtaining achievement and score of employees, and finally quantification based on money value. Determining weightage and standard of performance depends on the role and responsibilities of job each employee is hired for, and also differs according to the nature of the enterprise. After developing the model, the researcher assessed its efficiency to report HRA data by implementing the model to quantify human resources of higher education institutions and yielded satisfactory results. The model formulated by Sasirekha (2011) is a considerable method to implement HRA in future and can be utilized by companies from different sectors to measure their human resources. The fact that this model is developed in India provides an optimistic perception towards the growing significance of HRA in India.

Thus, it is observed from past literature that Indian companies are mainly adopting the Lev and Schwartz model for HRA though few companies are using the Flamholtz's model as well. However, further attempts are required to incorporate more models based on utility as well to develop new models according to the specific requirements of companies.

Theeke (2005) came up with a new approach for human resource accounting since he regarded reporting human resources in terms of financial terms as unsuccessful. The researcher introduced three new approaches to HR accounting, namely, the demand deposit approach, the lease capitalization approach, and the contingent liability approach. Among the three approaches, the contingent liability approach was ascertained as the most effective approach by the researcher. Unlike the general assumption that liability refers to a bad concept, the researcher proposed that liability is it's not always bad. Liability is regarded as an obligation and the reality is that organizations own human resources and capital by inducing liabilities. Based on this approach, the reporting methods could adopt supplemental balance sheet information such as contingencies, accounting policies, contractual situations, post-balance-sheet-disclosures, and fair values (Theeke, 2005).

Overall, it could be inferred that there exist several models that can be adopted by organizations during HRA implementation. However, most of the organizations are confining to the widely used models, thus not exploring the possibilities of other models much. Through the present study, company stakeholders are encouraged to explore the possibilities of different models according to the nature and needs of their organizations. HRA, like any other HR practices, is influenced by various cultural and institutional factors, including social context and labor market (Maharjan and Sekiguchi, 2017). Thus it's difficult to specify that a single model will be the most effective and best HRA when it comes to adoption in Indian companies. Future behavioral researchers can focus on examining the impact of each model alone in detail and provide a comprehensive

picture of the models to company stakeholders so that they can decisions accordingly.

Impact of HRA on Organizational Performance

The third research objective was to determine the impact of HRA on organizational performance and employee management in Indian companies. The following studies were identified to be relevant for answering the research question pertaining to this objective.

Table 4

Key concepts identified and corresponding studies

Key concept	Selected studies
Decision-making and organizational effectiveness	<p>Human Resource Accounting Policies and Practices in Public Sector Enterprises (Shukuhian, 2018)</p> <p>Measuring employees value: A critical study on human resources accounting in India (Chouhan and Naghshbandi, 2017)</p> <p>Human Resource Accounting-Is It Really Accounted by The Companies in India (Sivaprakash and Joseph, 2016)</p> <p>Human Resource Accounting - A Case Study with Special Reference to Visakhapatnam Port Trust (Polisetty and Sheela, 2015)</p> <p>Human resource accounting disclosure practices in Indian companies (Kaur, Raman, and Singhania, 2014)</p> <p>UTILITY AND CRITICISMS OF HUMAN RESOURCE ACCOUNTING (Raju, 2014)</p> <p>Human Resource Accounting: An Implication for Managerial Decisions in Indian Hotel Industry (Chand and Heera, 2008)</p>

Profitability	<p>Impact of Human Resource Accounting on Companies Profitability (Alekhyia and Lakshmi, 2020)</p> <p>Impact of Intellectual Capital on the financial performance of Indian Public Sector Bank: With a Special reference of Bank of Baroda (Sen, 2016)</p> <p>Human Resource Accounting and Its Effect on Organizational Growth:(A Case Study of Steel Authority of India Ltd.) (Chaturvedi, 2013)</p> <p>Perception of Employees on Human Capital Valuation with Special Reference to Software Industries (Indradevi and Gomathi, 2008)</p>
Employee performance	<p>Auditing Human Resource Functions & Competencies: An Empirical Study (Rani and Singla, 2015)</p>

It can be observed from the review that HRA has an overall positive impact on organizational performance. Enhancement of organizational efficiency and market worthiness is what makes HR valuation significant (Kaur, Raman, and Singhania, 2014). For instance, adoption of HRA in Bharat Heavy Electronics Ltd (BHEL) has enabled the company to make more effective decisions as well as improved employee worth. Similarly, inclusion of HRA in financial reporting also increases the profitability of companies (Chouhan and Naghshbandi, 2015). Similarly, inclusion of HRA has been identified to be beneficial for Infosys to determine employee performance and productivity and make managerial decisions regarding employee retention, compensations, and other similar parameters (Sivaprakash and Joseph, 2016). Implementing HRA in organizations is also perceived to be a positive approach by employees and is identified to be enhancing efficiency of organizations as well as effective accomplishment of goals (Indradevi and Gomati, 2008).

Managerial Decision-Making

Major organizational behaviour implication of HRA is enhanced decision-making abilities among managers and other significant stakeholders (Flamholtz, Bullen, and Hua, 2002; Avazzadehfath and Raiashekar, 2011; Vohra and Chaudhary, 2014). Positive impact can be observed on decision-making related to various human resource activities including recruitment and layoff of workforce (Tomassini, 1977; Enyi and Akindehinde, 2014). Stock investment decisions are also profoundly influenced by valuation of human resources (Hendricks, 1976; Enyi and Akindehinde, 2014).

With respect to HRA practices followed in India, improved managerial decision-making is observed from the implementation of HRA in various organizations across India. Evidence can be drawn from the case study of Visakhapatnam Port Trust (Polisetty and Sheela, 2015). Raju (2014), based on a study on personnel from Visakhapatnam Steel Plant, identified that inclusion of HRA is perceived to be significantly influencing internal decision-making, employees, and trade unions and thus called for developing utility for external decision-making by investors, creditors, as well as lenders. A review of HRA practices followed in the hotel industry of India also indicates the significance of quantification of human assets in assisting HR managers to make better decisions (Chand and Heera, 2008). Shukuhian (2018) also identified that inclusion of HRA in organizations enhance managerial decision-making as well as organizational performance.

Profitability

Alekhyia and Lakshmi (2020) examined the impact of HRA on the top-line and bottom-line growth of five selected public sector companies in India; Infosys, SAIL, BHEL, ONGC, and NTPC. The analysis was conducted by assessing the effect of

employees' pay and wage rises as well as retirement benefits on their productivity. The researchers identified that HRA has significant impact on both top-line growth and bottom-line growth in all the studied companies, with higher impact on top-line growth in BHEL, followed by Infosys and on bottom-line growth in Infosys. The study concluded that HRA has a potential role in increasing profitability of organizations.

Sen (2016) identified from a study on the Bank of Baroda that intellectual capital of a company has significant impact on its financial performance, influenced by structural and human capital efficiency as well as capital employed efficiency. HRA, as identified by Chaturvedi (2013) also influences revenue and production factor per employee, thereby contributing to overall organizational growth.

Employee Performance

Rani and Singla (2015) studied the impact of HR audit awareness on employee performance among five selected private banks in India (ICICI, Kotak Mahindra, AXIS, HDFC, and INDUSIND). The analysis of employee performance before and after providing HR audit awareness campaign policies indicated that employee performance increased after implementing the campaign. Highest employee performance was observed in ICICI among all the banks included in the study.

Though studies mentioned above indicate the impact of HRA on managerial decision-making, profitability, and employee performance, the studies are not adequate enough to draw a precise conclusion about the impact or to generalize across India. Thus, further studies determining the impact of HRA on the identified as well as other significant parameters of organizational performance is necessary to strengthen the application of HRA in India.

Impact of Influencing Factors on HR Disclosure

The fourth research objective was to explore the influencing factors on effective implementation of HRA in Indian companies. The following studies were identified to be relevant for answering the research question pertaining to this objective.

Table 5

Key concepts identified and corresponding studies

Key concept	Selected studies
Impact of demographic profile of employees	Application Of Lev and Schwartz Compensation Model on The Accounting Practices of MCF Limited (Samartha et al., 2019)
Impact of company characteristics	Effect of Company Characteristics on Human Resource Disclosure Index: Empirical Evidences from Indian Corporates (Aggarwal and Verma, 2020)
Impact of financial performance of company	Comparative Analysis of Human Resource Accounting Practices and The Effect of Financial Performance on Human Resource Value in Public Sector Companies in India (Shukuhian and Ashraf, 2019)

Samartha et al., (2019) conducted a study to determine the impact of demographic profile of employees on HRA data. The researchers identified that various demographic factors of employees such as age, education, income, expenditure, experience, and economic status of the company influences their value to the organization. Their study was administered at Mangalore Chemicals and Fertilizers Ltd (MCF).

Aggrawal and Verma (2020) conducted a study on 63 selected Indian companies listed in NSE-100 index, to determine the impact of company characteristics on HR disclosure as well as status and differences in HR disclosure among public and private sector companies. The findings revealed that, among the measured company characteristics, net sales, market

capitalization, and pages in the annual report have positive impact on HR disclosure. On the other hand, net fixed assets, EPS, and debt-equity ratio found to be negatively influencing and other characteristics (company age, return on total assets and equity, profit after tax, promoter's holding, current and quick ratio, auditor type, listing status of the company) doesn't exert any influence on HR disclosure (Aggrawal and Verma, 2020). The study concluded that practices of HR disclosure in public and sectors doesn't differ. However, the overall status of HR disclosure is only at a moderate level and further strengthening is required.

Shukuhian and Ashraf (2019) investigated the impact of financial performance of companies on HRA data on nine selected companies (both public and private) from India. Performance of the companies was assessed on five parameters (net profit, return on HRV, total number of employees, profit per employee, and return on equity) and identified that net profit and return on HRV have strongest influence on HRV (human resource value).

Apart from these factors, Kaur et al., (2016) identified that the disclosure of human resources in Indian companies is influenced by government's involvement in ownership and capitalization of market, followed by inclusion of separate committee of HR directors and independent directors on board. Additionally, size of the company also has a positive influence on HR disclosure index. However, number of employees, age, leverage, assets, concentration of ownership, auditor type, complexity of the business structure, ratio between employee expense and total operating expense, industry affiliation, presence of non-executive directors, and foreign investment were not found to a major impact on the human resources disclosure index (Kaur et al., 2016).

However, existing studies does not provide an exhaustive list of the factors that can influence value of human resources in

organizations. Thus further research is required to identify potential influencing factors as well as validating the findings from existing studies by extrapolating to various organizations across India.

Discussion

Human Resource Accounting considers employees as capital of the organization and provides monetary value to them. This could make employees feel more valued in their workplace which increases their job satisfaction. From the International perspective, though the International Accounting Standards Board (IASB) does not provide any standards for HRA, steps are taken to extend accounting to the valuation of human resources and other intangible assets, for instance, introduction of accounting of goodwill of organizations (Bullen and Eyler, 2010). Thus, since HRA is being accepted and practiced globally, initiatives from the side of Indian governing bodies to reconfigure the accounting practices of India by mandating and issuing standards for HRA will be instrumental in enhancing the growth and effectiveness of organizations as well as improving employee performance and productivity. Considering employees as the assets of organization and valuing their effort and contribution to the company can have remarkable impact on job satisfaction and organizational commitment among employees.

Human resource accounting is still not widely popular in India, with considerably less implementation in organizations as well as less attention given in academic research. From the literature review, it can be observed that the major model of HRA adopted in Indian enterprises is the Lev and Schwartz model, which is not free of limitations. Thus, execution of HRA in India can be strengthened by adopting and experimenting with other models. For instance, from the perspective of behavioral implications,

using the non-monetary models like Likert's causal intervening and end results model or Tayler and Bowers model could be advantageous. Additionally, formulation of new models according to the specific requirements of companies will also be useful to do an extensive valuation of human resources.

Another issue faced by companies while implementing HRA practices is that reporting of HRA data in financial statements are increasing the length of their annual reports, as stated by companies like BHEL (Agarwal, 2004). Due to the same reason, many companies are presenting HRA values only as an unaudited supplementary data in financial reports (Das, 2018). Only few companies like Infosys are adding HRA values as data of intangible assets in the annual reports (Sharma and Khatik, 2017). Addressing this gap and exploring the challenges faced by companies in including HRA data in the annual reports will be useful to develop a precise yet comprehensive model for HRA.

The study has practical implications for human resource managers, wherein they can understand more about the practical possibilities and challenges of using each model of HRA. It will enable them to make a wise decision regarding which model to be adopted to their company. In those companies that are currently practicing HRA, managers can use the findings of this study to revise and modify the existing HR practices of their company to enhance employee satisfaction and other measures of organizational effectiveness that are being influenced by HRA.

Apart from the practical application of HRA, the paper also provides opportunities for the following as the theoretical implications. Academic research on HRA is also not satisfactory in India. It can be observed from literature mapping that the majority of the past research focused on introducing the

concept of human resource accounting and comparing various models and methods of performing HRA. Most of the articles are focusing on the same content and are written as review papers. Even the empirical studies were concentrating on accentuating the financial implications and other economic benefits of HRA for the organisation. However, studies focusing on organizational behaviour implications are still in its nascent stage and thus future research needs to be focused on exploring and empirically analysing the impact of HRA on various behavioural aspects from the perspective of both employers as well as employees. Such studies are necessary to reinforce the growth and application of HRA among Indian enterprises. In the present study, major models or theoretical aspects of HRA are explored. Future researchers can examine the efficacy of each model in detail and identify the model that fits best in each organization according to the needs and demands.

Another research possibility is to determine the impact of the demographic profile of employees as well as other influencing factors on the valuation of human resources. However, such studies are conducted only on specific companies in India as well as not adequate enough to generalize. Thus, further research is required to study validate existing findings as well as to identify other potential influencing factors.

Furthermore, studies determining the impact of HRA on profitability and organizational growth were identified from previous research. However, such studies are conducted in select fiscal years and thus need exists to examine whether the impact remained in subsequent years as well. HRA is thus a dynamic process and want to be investigated continuously and compared with past results.

Another area where research is required is in analysing the impact of HRA on organizations and comparing it with

organizations that does not practice HRA. For instance, a study by HR and Sinha (2017) couldn't identify a significant difference in the performance of organizations that practice HRA as well as does not assess HRA data. Thus, extensive studies are required across Indian companies to precisely analyse the impact of HRA and what are the barriers faced by the organizations where HRA is not yielding the expected outcomes.

The present systematic review is not without limitations. The study only revealed the major findings of existing research in order to synthesise literature from India and to identify research gap. However different model of HRA or reports of HRA from companies were not explored in detail. Furthermore, the study was able to draw conclusions only from published literature. Possibilities exist for presence of HRA in other companies as well which may not be studied by previous researchers. Thus, future researchers have to explore different models in detail to identify the merits and demerits of each with respect to the nature and functioning of Indian companies. Research assessing the challenges and limitations faced by different companies will also have to be investigated in detail, which is beyond the scope of present study.

Additionally, this study presents a systematic review of studies on HRA only from Indian companies. Further research can thus extend systematic reviews based on HRA studies from other countries, as well as comparison across nations.

Conclusion

Human resource accounting in India can still be considered to be in its nascent stage with several challenges to be overcome to derive maximum benefits from it (Sirisetti and Mallesu, 2012). The National Association of Accountants (1974) identified the major hurdles as the lack of a precise system or method of conducting HRA and absence of tax laws that regard employees

as assets of an organization. HRA can provide reliable results only with the joint effort of managers, accountants, as well as academicians, facilitated through formulation of appropriate guidelines by the governing bodies (Batra, 1996). Since there is no assurance of the future status of an employee in the organization and it is impossible to own employees in the same way physical assets are owned, including human resource valuation in the balance sheets of organizations seems to be unfeasible. Besides, there are also lots of debates ongoing regarding the merits and demerits of HRA. Several professionals find HRA to be a system that treats humans like machines by quantifying their value and performance. Thus, HRA should be implemented judiciously in organizations, by considerably analysing the advantages of HRA and the practical implications that can be derived from the valuation of human resources.

In order to meet this objective and direct further developments of the HRA systems, the insights drawn from this systematic review can be beneficial. Raju (2014) had identified that inclusion of HRA in all levels of management is possible and that majority of employees have a positive approach towards HR valuation. Since it is observed that HRA can have a potential positive influence on organizational performance from the perspective of both employees as well as managers, it can be affirmed that inclusion of HRA in the conventional accounting system can be advantageous and once the obstacles are overcome, HRA can lead to organizational growth. Implications of HRA asserts that HRA is having a positive impact on decision-making, profitability, and employee performance.

In conclusion, taking into consideration the modifications required and challenges to be solved, HRA implementation should be promoted Indian companies for the enhancement of organizations and advancement of the Indian economy.

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