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# Human Resource Accounting: From Theory to Practice

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## Abstract

The primary capital of a community is deemed to be expert and adept manpower, particularly in the current era. Nowadays, the upsurge of intense competition generated in markets and organizations has rendered manpower to be the vital and effective factor leading to the attainment of competitive advantage, the success of the organizations, and their superiority to their competitors. In order to make plans, make their decisions more effective, and augment the efficiency of their decisions, managers and investors are required to obtain information about the true value of human resources in their organizations. Regarding the paramount importance of the evaluation and measurement of manpower, considerable research, in the field of Human Resource Accounting, has been conducted so as to develop concepts and methods of human resource accounting. This study seeks to delve into the significant impact of human resources on the advancement of the organization, to present theatrical concepts of human resource accounting, and to investigate the obstacles hindering the implementation of human resource accounting. The results substantiate that the impediments pertaining to the process of collecting human capital data for the report, the weak points and failings of the current accounting systems, and the absence of a comprehensive model for appraising human resources are the major influential factors obstructing the implementation of human resource accounting.

**Keywords**: human capital, human resource accounting, human resource reporting

## Introduction

In the agricultural and industrial economy systems that were deployed before World War II, human capital was less important than today. At present, the world economy is moving rapidly towards a knowledge based economy. Since services provided in knowledge based companies require a high level of technology, so they must be provided by professional and trained personnel. Indeed, one of the distinctive features of the knowledge based economy refers to the human capital (including knowledge, skills and experience of individuals) that is more important than the physical capital (Flamholtz, 1987). Therefore, the emergence of the knowledge-based organizations and industries significantly changed the nature of wealth creation. These companies can create market and value not due to physical assets but by their intangible assets. Managers today are experiencing an era where human capital is the real capital of organizations. In other words, the leading organizations can just overtake the other organization by the help of smart and knowledge creator humans in the area of their upcoming competitions and challenges (Haji Karimi, & Rahimi, 2011). The considerable research is done due to the increasing importance of human capital in the economy to develop the concepts and methods of human resource accounting that has been recognized as human resources accounting (HRA) (Flamholtz, 1987). Christine and Kim (1995) during their research studies showed that capital expenditure on the one hand leads to a reduction in the company's current cash flow and on the other hand leads to an increase in the company's future cash flows. Since the value of the company is evaluated based on the assessment of its future cash flows, predicting the future state of the company substantially improved with knowledge of expendables, and it leads to increase the value of company. When companies spend expenses to develop the manpower, these expenses have future benefits and should be reflected in the balance sheet as investment in assets' sector that will ultimately lead to an increase in company value. While in traditional financial statements these expenses is re-

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flected in the profit and loss statement as the cost of the period. Companies that have heavily invested in the area of human resources without reflection of its amount as an investment in human resources in the balance sheet, failure to provide necessary information in this regard lead to underestimation of the benefit of the next return. The lack of information related to human capital may lead to underestimation of the value of the company. If it is assumed that the human resources will lead to future revenue, the need for increasing human resource information may be felt. In general, the main function of financial statements for external users, particularly investors and creditors is to provide information for evaluating the performance of business units and a basis for comparing the performance and financial position of business units. The traditional financial statements act weak in accomplishing this performance. One of the main reasons for the failure of the financial statements in performing the function is how to deal with human resources (Hansson, 1997). Investors as users of financial statements need information about the value of human assets and changes of these assets during the financial period to make proper decisions of investment. Management of units as another set of financial information users' needs such information for planning and controlling the human resources. Therefore, the incorporation of human resources accounting to the existing accounting system will not look unrealistic in the not too distant future. (Gholami, 2007).

## Human resource accounting

In accounting, it is tried to pay more attention to the role of human resources in organization through human resource accounting (HRA). Different definitions of human resource accounting are provided by different scholars. Human Resource Accounting Committee of Accounting Association of America in 1973 is defined Human Resource Accounting (HRA) as the process of detecting and measuring human resource information and transferring this information to interest groups. In this definition it is suggested that the HRA is a tool that can be applied for the organization assets reporting in financial accounting and management accounting. Pyle, Brummet and Flamholtz Stephenson and Franklin have defined Human Resource Accounting as the process of identifying, measuring and providing information on human resources to facilitate effective measure in the organization. Bromet *et al* have defined Human Resource Accounting as the process of determining, measuring and establishing relation between information to facilitate effective measure of human resource in the organization (Sangladegi, 1975). Flamholtz (2002) states that human resource accounting involves accounting for human as part of the organization assets. In fact, human resources accounting is an attempt to identify and report the investment in manpower that expected to create benefits in excess of ordinary interests for company in future. Based on this definition, the manpower of each organization should be reported as asset in the context of the financial statements that expected to enhance the future profitability of the company by improving the production and providing goods and services. Flamholtz believes that if human resources accounting can demonstrate that the improvements in human resource management process leads to increase the profitability, management will use the human capital implications to enhance the decision making. Flamholtz has considered three main goals for the HRA:

1) Providing objective information about the total cost and the value of the human resources of the organization,

2) Providing a theoretical framework to guide decisions regarding the human resources of the organization and

3) Directing decision makers' interest towards the human resource (Flamholtz, Bulen, & Hua, 2002).

### *The evolutionary process of human resource accounting*

The history of human resources accounting is proposed in this sector for more familiarity with human resources accounting and introducing the experts' views toward the importance of the human resources in the organization. The evolutionary process of human resource accounting is studied in five stages:

1960-1966 inference of the basic concepts (primary) of human resource accounting

1967-1970 academic basic researches formation to develop measurement models

1971-1977 enhancement of interest towards human resources accounting  1980-1978 reduction of interest towards human resource accounting in the level of organizations and universities

1981 till now, renewed interest towards human resources accounting in international level

*The first stage (1960-1966):* The interest to the human resources accounting began in this period. A number of theorists such as Scott (1925) and Peyton (1962) have supported the idea of considering human resources as its asset and valuation. Also, organizational psychologists like Likert believed that human resources were considered to be in default as the valuable resources of organization. Hermanson (1964-1986) presented a model for human resource valuation to financial reporting of external organization. Hermanson's work was useful for development of HRA in the next step. (Flamholtz, Bulen, & Hua, 2002)

*The second stage (1967-1970):* The second stage coincided with the formation of university researches to develop and evaluate the validity of the historical cost determination model and the value of human resources. In this period, researches were conducted to determine the current and future applications of human resource accounting as a tool for managers and financial information users. In this period researches were conducted for the development of the HRA at the Michigan University. In early 1967, research team including Likert, Bromet, pile and Flamholtz has conducted plans to develop the HRA concepts and methods. The result of this research was published by Bromet and colleagues (1968) which was one of the earliest efforts in the area of HR measurement. In this article, the term human resource accounting was used for the first time. They investigate the objections relating to the expense of human cost considering as an asset rather than its calculation. The effect of human resources accounting on management was evaluated in another article that was published in the same year by Bromet. (Flamholtz, Bulen, & Hua, 2002)

*The third stage (1971-1977):* The interest to the HRA substantially increased in the organization level. In this period a lot of researches were done for the application of theoretical interest in the organization level. Tomassini (1974) in a research showed that the HRA data can be effective for management decisions related to the employees' prioritization including withdrawal and selection of employees in the selection and action level. Flamholtz (1979) conducted a research to study the effect of figures related to the value of human resources on official accountants' decisions. The results of this study showed that statistically there is a significant difference between the decisions based on figures calculated according to the traditional methods of personnel selection and figures based on the value of human capital including monetary and non-monetary items. Lombardi and Flamholtz (1979) found that the results of the decisions taken on the basis of traditional figures will be different of the decisions taken based on the HRA information. In addition, there is no difference between monetary and non-monetary items of HRA. In this period Flamholtz (1971-1972) presented a model that accordingly the value of individual is based on the services that will provide to the organization in the future. Also, Flamholtz in 1974 published a book entitled "Human Resource Accounting". (Flamholtz, Bulen, & Hua, 2002)

*The fourth stage (1978-1980):* The interest to the HRA reduced during this period but did not disappear entirely and valuable activities were done with regard to the HRA during this period. Flamholtz and Ansari (1978) proposed the use of HRA as a tool for management. One of the reasons for the reduction of interest to the HRA was that the previous preliminary studies that were conducted in relation to the HRA were easy while the remaining studies were difficult. In addition, the implementation of the necessary studies for application of HRA required the interest and cooperation of organizations. However, since the implementation of these studies required spending a large amount of expenses and there was insufficient certainty in relation to its benefit toward the expenditure, organizations were not willing to implement it. (Flamholtz, Bulen, & Hua, 2002)

*The fifth stage (1981-present):* In 1981, the interest in the HRA increased once again. Studies were conducted to develop and apply the HRA during this period. For example, the Marine Management Organization of America decided to use the HRA methods to manage its own human resources. During this period, in many countries, the industrial economics that the focus was on physical assets had changed to the modern industrial economy in which the intellectual capitals were emphasized rather than the physical assets. In such circumstances, the future success of the organizations was affected the intellectual capital rather than the physical capital (total human capital and intangible assets). Therefore, organizations should pay more attention to human capital development. In 1995 the Scandia Company that was the largest insurance and financial services provider in the Scandinavian countries was presented the first report on intellectual capital. During this period, companies like Intel and Microsoft were formed that were a symbol of a new era. In these companies human resources have more importance than the companies in the industrial economy period. (Karami, Hasani Azar, 2007) However, unfortunately, the accounting is not able to respond to changes in the existing conditions. Now, accounting is based on the condition of the industrial economy in which the physical assets were in the spotlight. While in the present era companies need information through that can continuously evaluate individuals' skills and abilities. This information providing tool about the human capital is the same HRA. (Flamholtz, Bulen, & Hua, 2002)

## Human capital and its position in the organization

The importance of human's role in the development of societies and the role and position that must be entrusted to him in this way have been the prominent issues in the social and economic literature. Despite the earlier periods that the manpower was as a factor in the production factors ring, in the present era the human-centered is located in the position of a development theory. In the previous viewpoint, the physical capital factor has had a central role and manpower has played the lower role and even the labor supply is assumed to be unlimited. But gradually human achieves a higher status compared to the physical capital by proposing issues such as the efficiency, skill factors and necessity and safety of the workforce and with extension of theories in the area of development and capabilities of human resources. Even in the last decade human-centered was raised as a dominant approach in the development (Mahmoudi, 2007). Human capital is the only factor of production that has the ability to create new products and improve production processes. Human capital is the cornerstone of the knowledge society that can be defined as follows: "Knowledge, skill, competencies and attributes that can be collected in individuals and make the personal, social, economic achievement easy." Researchers have identified components of human capital as follows:

*Capabilities:* refers to the ability of individuals to perform tasks that include both capacity and competence to do the work and to get the opportunity to do the work. Capacity refers to what people can do and opportunity points to the available options to individuals for gaining personal or financial reward through their work capacity.

*Capabilities = Capacity * Opportunity*

In the above framework, individuals' skills and knowledge are considered as a simple reserve of human capacity. What is important is how to use these reserves. The emphasis of organizations on human capital is based on the view that the market value of organizations less depend on tangible resources and more depend on the intangible assets particularly human capital. Organizations must raise the organizational learning and increase their employees' skills and capabilities by encouraging them to learn and make an environment by their supports in which knowledge is created, shared and used and create a dynamic environment for continuous learning. (Kurdistani, 2009)

## Human resource valuation methods

### *Historical Cost Method*

The concept of historical cost of human resources is derived from the viewpoint of historical cost in accounting that is defined as lost resources to gain the desired benefits or services. This theory is based on the accepted accounting principles. The historical cost of human resources includes investments that were directly taken place by organization for Human Resources education. These investments are usually in the form of expenses related to employment, selection, training and development of manpower. In other taxonomy the historical cost of human resources can be divided into direct and indirect cost. Direct costs are the costs that are directly traceable to the desired source or activity. Indirect costs include expenses that should be allocated based on the appropriate assumptions to the interest earned between activities. In order to measure human resources the expenses occurred in relation to the manpower of company should be considered as an investment and to be depreciated over the useful life of investment. If an employee leaves the company before the complete depreciation of this investment, not amortized remained is recognized as loss. (Marin, 1981)

### *Replacement Cost Method*

Replacement costs include expenses related to displacement, education and development of available human resources. In the replacement method an estimate of the direct expenses associated with the employment and familiarizing and training of employees to the desired posts and also an estimate of the indirect expenditure are done. (Marin, 1981)

### *Compensation Method*

In economic theories, it is believed that the sources are valuable because they are able to create future services. Therefore, the value of human resources can be defined as the present value of future expected benefits. However, the utilization of this value by company depends on the health of employees and their relationship with the company. The problem of the company's human resources evaluation is complicated due to the uncertainty to the period that the employees remain in the company. The complex mathematical methods should be used to consider this uncertainty of evaluation models. Lev and Schwartz contribute a lot to human resources accounting by introducing the concept of economic value of human resources. In their model employees' salary was used as a replacement for determining the economic valuation. They consider the value of employees equal to present value of their earnings during the period of activity in the company. To achieve this value, they assumed that employees remain in the company until retirement. Their mathematical model was as follows.

$$Vr = \sum_{T=r}^{r} \frac{I_t}{(1+d)^{t-r}}$$

In this model:

$V_r$ The value of individual human capital with r year of age

$I_t$: An annual income of individual before retirement

*t-r:* The time interval until retirement

*d:* The discount rate for certain individual in the organization

*T:* Age of retirement

*t:* End time of activity that the person may be retired or dead that its probable amount to be determined (Marin, 1981).

### Economic Value Method

Lev and Schwartz (1971) considered the economic value of an employee as the present value of the employee's income during its useful life and adjusted their models (work compensation method) in terms of the death risk of employee. (Etemadi & Shahriari, 1997) This theory is based on the capital value theory. According to Irving Fisher's theory "capital in concept of the capital value is the discounted value of future earnings" their model is as follows:

$$E(VR) = \sum_{t=r}^{T} \Pr(t) \sum_{t=0}^{T} \frac{I_t}{(1+r)^{t-r}}$$

In that:

E (VR): The value of individual human resources with r year of age

$I_t$: An annual income of individual before retirement

*R:* A discount rate

*T:* Age of retirement

*Pr(t):* The survival probability

*t:* Individual's age at any time

*r:* The current age of the individual (Hassan Ghorban, 1998)

### Multiplier Method

According to the Multiplier theory, the value of human resources is equal to the difference between the total value of the company and the value recorded in the offices of company. In this calculation adjustment does not take place for the intangible assets such as, lock, royalty, the dependence rate of customers and the value of long-term contracts. In this method the value of the coefficients is the basis of calculation. In this method the dependence rate of the individuals to the company and expected productivity of company from their services are determined as an optional coefficient from 0 to 2.5. Additionally, in this method employees are classified in four classes of higher levels management, mid-levels management, supervisors and employees (Hassan Ghorban, 1998).

### Flamholtz model

Studies of Flamholtz is the legal standard for valuation of human resources that the displacement of employees in organizational positions is shown and it is expected that each employee provides a certain amount of service to the organization over specific time. According to the possibility of achieving each organizational position by each employee, his expected services are calculated by the following equation:

$$E(S) = \sum_{i=1}^{n} \text{Si P(Si)}$$

In which:

*Si:* refers to the expected services of each employee

*P (Si):* is the possibility of achieving the certain organizational position by each employee

Services that each individual provide to organization determine his value in the organization. According to the Flamholtz model, the monetary value of services can be provided in two ways: in the first case the amount and sum of services are determined and in the second case the expected profit from the provided services is calculated. Then, in order to calculate the present value, the sum of expected services is discounted (Marin, 1981).

## Human Resources Reporting

Financial reporting is a means through which information about the financial status of the company will be offered to shareholders, current and potential investors of company, creditors and other users. Currently, expenses related to Human Resources in financial accounting are considered as the period expenses that in the case of gains and losses will be deducted from the net profit of company. While these expenses are the assets of future benefits and should be proposed as assets in the balance sheet of the company. There are a lot of obstacles and difficulties in relation to human resources reporting on the balance sheet (Flamholtz, Bulen, & Hua, 2002). Reporting of human capital can be defined as a company reporting system that provides information on the knowledge, skills, abilities and motivation of employees. A comprehensive reporting enables the recipients of this information to gain better visibility toward the characteristics and potential power of the human capital. Hence, human capital reporting facilitates the assessment of the company's position in the market and a detailed assessment of the potential power of company for value creation. Human capital reporting can cause to the company's reputation because reporting of the human dimensions are related to the other social activities and disclosure of the social information. Since the company's relationships with employees has gained great importance and is frequently considered by community members, human capital reporting can improve the image and reputation of the company through targeted communication with key stakeholders (Hasas Yeganeh, Rahimiyan, and Tavakolniya, 2013). Although, there are several models for measuring the historical cost and value of human resources, human assets measuring are subjective and depend on personal thoughts in this method. One of the reasons is that the company is not the real owner of its manpower because there is the possibility of manpower changing during the company's activity. However, this problem is removed by estimating the possibility of employees' death and leaving in value-based models. However, the possibility to take advantage of these value-based methods decrease since the financial statements are in accordance with the accepted accounting principles and are prepared based on the objective and historical data. The reason that the accepted accounting principles support the objectivity, reliability and impartiality as the qualitative characteristics of financial information is to enhance the comparability of financial reporting among the business units. Appling the methods based on the estimation and personal judgment reduces the comparability of financial statements. Although using the cost expenses approach related to the human resources instead of its reflection as an asset increases the degree of objectivity and reliability of financial reporting, it may reduce the relevance of information for decision making. Therefore, it can be said that although HRA-based criteria involve the subjectivity in valuation, they are very concerned to the real needs of investors (Flamholtz, Bulen, and Hua, 2002).

### *The causes of lack of human resource accounting implementation*

- The complexity of human resource measurement models makes its understanding difficult by managers of organizations.
- Involving the subjective indicators in the valuation models that significantly reduce the objectivity of these models.
- High costs of human resources accounting implementation - The difficulty of information gathering on human resources
- Ambiguity of relationship between human resources accounting costs and its future benefits in the company
- Lack of knowledge of managers, accountants about human resource valuation methods

## Recommendations of the study

- Professional accounting communities should determine criteria for Accounting Standards codification for Human Resources Reporting.
- In the Graduate Studies period, the course entitled Human Resources Accounting to be included in order to familiarize the students with the human resources accounting methods
- Encouraging the academic communities to conduct a more thorough investigation and also encouraging organizations to apply relevant methods to measure the value of human resources to provide Human Resources value in financial reports
- Conducting the fundamental researches in order to remove existing limitations in human resource valuation models to determine the true value of human resources that have adequate reliability for presenting in the financial statements.
- Due to the lack of knowledge of the business unit managers on human resource accounting system, courses should be held by Stock Exchange Organization for managers of accepted companies in Stock to familiarize them on objectives and functions of human resource accounting system.

## Conclusion

Due to the increasing importance of manpower role in the development and promotion and achievement of organizations' goals, management requires a comprehensive system for determining the value of services provided by manpower. Because acquiring precise and accurate information about human resources expenses and the effectiveness rate of these expenses can play an important role in attracting resources and development and improvement of organizations. However, the accounting systems are not able to measure the value of human resources and provide financial information about the organizations' human resources. Failure to report the value of human resources leads to make inappropriate decisions by managers of organizations. Human Resource Accounting proponents have proposed objections to the accounting standards in relation to the negligence in providing useful information to management and investors. Human resources accounting systems is the most important tool that can provide useful information in the field of human resources. Human resources accounting includes useful and effective functions to users of reports and financial statements in order to provide adequate and reliable information about the value of human resources of the company. Objections are entered by the models toward the monetary evaluation of human assets due to the complexity of manpower evaluation methods that make its understanding difficult and low reliability of them due to the influence of the estimated parameters within the models. Therefore, fundamental studies should be done to modify the objections of measurement models in order to reflect the human resources in the financial statements accurately and objectively.

## References


Etemadi, H. & Shahriari, M. R. (1997). The study of the effect of providing human resource accounting information on the behavior of the accounting information users in Iran, *Accounting Review Journal*, 55-70.

Flamholtz, E. G. (1976).The impact of Human resource evaluation on management decisions : A laboratory Experiment . *Accounting, Organizations and Society*,1,2-3,153-165.

Flamholtz, E. G. (1987).Valuation of human asset in a securities brokerage firm: an empirical study. *Accounting, Organizations and Society*, 12(14), 309-318

Flamholtz, E. G., Bulen, M. L., & Hua, W. (2002). Human resource accounting: A historical perspective and future implications, Management decision,40(10),947-954.

Gholami, S.A. (2007). The Study of obstacles and difficulties in implementation of Human Resource Accounting in Iran. Master's thesis, Shahid Beheshti University.

Haji Karimi, A.A. & Rahimi, F.A. (2011). The impact of human resources investment on competitive advantage: The role of Human Capital mediator, *Management Vision Journal*, 2, 25-39.

Hansson, B. (1997). Personnel and abnormal return:Knowledge based firms and human resource accounting, *Journal of Human Resource Costing and Accounting*,2(2), 9-29.

Hasas Yeganeh, Y., Rahimiyan, N., & Tavakolniya, E., (2013) . The study of the valuation of human capital reporting, National Conference on Valuation of Human Capital.

Hassan Ghorban, Z. (1998). Human resource accounting, human resources value measurement methods, *Journal of Accountant*, 120, 11-17

Hendricks, J. A. (1976).The impact of human resource accounting information on stock investment decisions: An empirical study. *The Accounting Review*, 292-305.

Karami, G.R., & Hasani Azar, E. (2007). Human resource accounting: Historic Transition, Official Accountants, 11 & 10, 87-91

Kurdistani, G.R. (2009). Human Capital Measuring and Reporting, *Auditor Journal*, 41, 26-31.

Mahmoudi, V. (2007). Human Capital, human capabilities, *Political Economy Journal*, 226, 220-227.

Marin, K. J. G. (1981). Assessment of the potential for human resource accounting in Venezuelan Navy management decision making, Master's thesis, Management, Naval Pustgraduate School, Montery,California

Pazhoheshi, M.R. (1993). Human resource accounting, a model for valuation of human resources of organizations, *Journal of Improvement and development Management Studies*, 8, 83-94.

Samadi, A., Nasiri. H.A. (2000). The study of barriers of the human resources accounting development, *Official Accountant Journal*, 11, 41-54

Sangladegi,M. A. (1975). A theatrical and empirical investigation of human resource accounting, A dissertation submitted in partial fulfillment of requirements for degree of Doctor of Philosophy in Accounting, Oklahoma university.