How to Cite:

Kashanipour, M., & Farooji, R. Z. (2022). The impact of human resource accounting on financial performance(case study: Industry-oriented companies admitted to the Tehran stock exchange). *International Journal of Health Sciences*, *6*(S7), 6549-6558. Retrieved from https://sciencescholar.us/journal/index.php/ijhs/article/view/13639

The impact of human resource accounting on financial performance(case study: Industryoriented companies admitted to the Tehran stock exchange)

Mohammad Kashanipour

Associate Professor of Accounting, Faculty of Management and Accounting, College of Farabi, University of Tehran, Qom, Iran, Email: kashanipour@ut.ac.ir

Rukhsare Zormand Farooji

Master of accounting from Farabi University of Tehran campus

Abstract---Human resources have a significant role in the development of the organization. Human resource accounting helps measure the cost and value of the organization's human resources and helps managers make critical decisions about employees. This study mainly investigates the impact of human resource accounting on financial performance in industry-oriented companies admitted to the Tehran Stock Exchange by using the panel data approach from 2001-2017. The results show that organizational profitability has a positive and significant effect on human resource accounting, and asset return and stock return have a negative but insignificant effect on human resource accounting.

Keywords---accounting of financial resources, financial performance.

Introduction

All organizations search to attract and retain and develop the best people to carry out their current processes and future activities to achieve their programmed goals and strategies. Therefore, when organizations hire or appoint people to higher jobs and positions, they try to ensure the hiring of suitable people and planning for the development of employees by using special procedures and processes to strengthen organizational human resources. Most companies expect to reduce costs; therefore, cost-benefit analysis has become a powerful tool for evaluating a wide range of business prospects. It is not easy to make human resource (HR) decisions without proper knowledge of cost-benefit analysis. This

Manuscript submitted: 9 May 2022, Manuscript revised: 18 July 2022, Accepted for publication: 27 August 2022

International Journal of Health Sciences ISSN 2550-6978 E-ISSN 2550-696X © 2022.

cost-benefit analysis has been proven to calculate and provide promising results compared to the associated costs of investing in many HR activities (i.e., employee training and human resource process automation in different companies). Most companies find evaluating the cost of HR planning and implementation easy. However, they face challenges when evaluating the benefits in terms of value for money. It is difficult to justify human capital investment unless HR departments change their perspectives from process costs to financial returns and benefits. Cost components include direct and indirect costs such as administrative requirements, payment to trainers, new system development, and loss of employees' productive time. Profit components include increasing production, improving quality and efficiency, and generating company revenue. Therefore, the human resource accounting (HRA) approach is necessary and essential to fill the gap between the company's human capital and the expected cost-benefit results to achieve the goals. On the other hand, Human Resource Accounting (HRA) helps HR departments develop adaptive alternatives. HR experts are developing new HR models to implement in their businesses to better serve their employees and companies and make a difference in the market with deep insight into future benefits (Khan, 2021). Manpower and human resource management show that human resource accounting (HRA) offers a means to improve management and measure human resources. Human resource accounting (HRA) shows that human resource management improvement increases profits (Kumar and Avasthi, 2018). This study's purposes are presented below:

- Identifying the impact of human resource accounting (HRA) on the organization's profitability
- Identifying the impact of human resource accounting (HRA) on asset returns
- Identifying the impact of human resource accounting (HRA) on stock returns

Theoretical Foundations

In economic literature, human capital refers to people's productive abilities. People with skills, experience, and knowledge have economic value to organizations because they enable firms to be productive and adaptive. Therefore, people are the human capital of the organization (Shaabani Vernami and Memarian, 2013).

This study's first purpose is presented below:

• Identifying the impact of human resource accounting (HRA) on the organization's profitability

The concept of total cost profitability is the common point of every business activity concerning the company's profitability. In addition, profitability depends on the active use of any activity and resources available in the market. Harvard and Upton (1967) defined profitability as the benefit of correctly using invested money (Khan, 2021).

This study's second purpose is presented below:

• Identifying the impact of human resource accounting (HRA) on asset returns

Asset efficiency is a tool to measure the efficiency of an organization by properly using its assets. It also helps in judging management's good or poor performance and provides management's cost control techniques. A high return on assets means that the company is getting more value from the assets and shows the financial ratio to estimate the level of profitability. Riganto (2001) stated that the higher the return on assets, the better the organizational performance because the higher the property rate, the better the return on investment. Therefore, the return on assets is shown by the net profit after taxes by the company's total assets (Khan, 2021).

This study's third purpose is presented below:

• Identifying the impact of human resource accounting (HRA) on stock returns

The stock return shows how efficiently a company manages its capital and estimates the return on that investment. The higher the stock return, the higher the increase in profit and the increase in working capital. Stock returns also determine investment profitability and business success (Khan, 2021).

It is often challenging to assign a monetary value to human assets from the perspective of different dimensions. Different methods for measuring human assets include two types of methods called cost-based and economy-based methods. In the cost-based method, the cost is the amount companies spend to provide a benefit or service. Therefore, the cost can also be considered a cost or asset element. Their difference is that the cost element may create a benefit in the current accounting period, but the asset element creates future benefits for the company. There are 4 models in the cost-based method, including the historical cost model, the replacement cost model, the opportunity cost model, and the standard cost model. In the historical cost model: the cost incurred for hiring human resources employees includes the cost of recruitment, selection, employment, training and development. These costs are considered investments and are expected to generate benefits through employee employment. The replacement cost model estimates the current market value and considers the amount incurred for current employees if they were to be replaced. Suppose there is a need to replace the workforce with equal qualifications. In that case, this model is similar to forming a new company and investing money in employees from the beginning. Therefore, the cost incurred for replacing terminated employees includes announcing and advertising the job, executive costs before employing employees, travel and interview costs, and other office costs. This cost is more reliable because it considers the current value of the company's human assets in the financial statement. It is confirmed that the company is not efficient in replacing the knowledge and competencies of the employees. In the opportunity cost model, known as the market value method, the asset's value is calculated compared to when there is an alternative opportunity to use it. This model is used for human assets that are not available, and we strongly need them. Therefore, the opportunity cost is determined by the job offer to an employee compared to its competing organization. Human assets are classified based on their ranks in job positions and management levels in the standard cost model. Then, the monetary value is calculated based on their category. The second method is the economic method, which deals with the current value of human resources services that are expected to be created in the future. This method measures value in two ways, monetary and non-monetary methods (Khan, 2021).

3. Research background

Abubakar (2009) conducted a study entitled "Critique on the concept of human resource accounting," considering human resource accounting (HRA) as a measurement tool to address the cost and value of an organization's employees. This concept is defined as the method of calculating the cost and value of employees in the company's financial statements as an intangible asset by including all existing definitions of Human Resource Accounting (HRA).

Kumar Dhar et al. (2017) conducted a study entitled "Investigating the impact of human resource accounting on organizational performance" to review the existing literature on the impact of human resource accounting on organizational performance and create a useful framework for researchers, policymakers and the investors' community. This paper uses a systematic review of the literature that focuses on the impact of the factors that affect human resource accounting practice on organizational performance. This systematic review collects and summarizes all empirical evidence from articles relevant to this study's context. This study's findings have been integrated into the proposed framework with human resource accounting disclosure and the use of intellectual capital accounting on organizational performance with management support and employee performance.

Kumar and Awasthi (2018) conducted a study titled "Human Resource Accounting and Organizational Performance." They showed that human resources play the most important role in the organization. In addition, evaluating the value of human resources is a complex process and cannot be evaluated like other cases. Therefore, the resources used in the organization are important.

Fattah (2020) conducted a study entitled "Investigating the impact of human resource accounting on performance evaluation." He states that the role and position of human resource accounting are to provide information that enables the management department to use this information through the analysis of their decisions, especially regarding employees. At the same time, it allows investors to accurately understand and evaluate the complete view of the company or organization. Human resource accounting focuses on accounting for the cost of recruiting employees and the cost of special programs to increase and improve their efficiency

Khan (2021) conducted a study entitled "The impact of human resource accounting on the financial performance of SME organizations."Khan's study helps small and large companies, HR departments and management and decision makers to understand the concept of Human Resource Accounting (HRA) and its

6552

benefits for making positive changes in their financial statements. The results of Khan's study indicate the lack of impact of human resource accounting (HRA) on asset returns.

Dori and Ethali (2002) conducted a study entitled "Human resource accounting and its effect on the financial performance of companies listed in the Tehran Stock Exchange."They found a positive correlation between human resource accounting and asset return and between human resource accounting and equity return. Therefore, companies are encouraged by increasing the return on assets and equity to report information related to human capital to gain the trust of stakeholders.

Shabani Varnami and Memarian (2013) conducted a study entitled "Investigating the relationship between financial performance of companies and human resources accounting disclosure in companies admitted to the Tehran Stock Exchange."They showed a positive and significant relationship between the financial performance of companies and the disclosure of human resource accounting. It is also concluded that an organization's human resource accounting information is very important for decision-makers based on knowledge and awareness in the economic era.

Karke Abadi and Sheikh Rabiei (2021) conducted a study entitled "The impact of human resource accounting on the financial performance of small and mediumsized enterprises (case study: plastofoam manufacturing companies in the southeast of Tehran)."They identify different dimensions of organizations' financial aspects, human capital productivity, organization profitability, asset return and stock return by presenting the details of human resource accounting (HRA).

Karke Abadi and Sheikh Rabiei's study results indicate the lack of impact of human resource accounting (HRA) on asset returns.

4. Research method

4.1 Panel data estimation method

The panel data model is a method for combining cross-sectional and time series data. The traditional econometric methods of time series and cross-sectional data do not consider the heterogeneities related to cross-sections, and the estimation results in the risk of bias. Estimation bias is eliminated or reduced by using panel data. It considers the heterogeneous individual effects of firms. On the other hand, the high volume of observations helps somewhat solve the problem of collinearity in econometrics. In general, a regression model in the form of panel data is as follows, where $\dot{\varepsilon}_{it}$ has the zero mean and constant variance. u_i is the fixed effects and indicates the individual differences of sections, and e_{it} is the disturbance component:

 $y_{\rm it} = \alpha + \beta x_{\rm it} + u_{it} + e_{it} \quad , \quad \dot{\varepsilon}_{it} = u_i + e_{it}(1)$

Ensuring the significance of the variables used in the estimation is the first step in estimating panel data models. The unit root test is one of the most common tests used today to detect the mean of a time series process. A random process is stationary when its mean and variance are constant over time; the covariance value between 2 time periods depends only on the distance or interval between the two periods and has no relation to the actual time of covariance calculation. The basis of the unit root test is based on the logic that a process is nonstationary; if the first order is autoregressive type. The panel data unit root tests are used to examine the mean in panel data, which was planned by Quah (1992 and 1994) and Breitung (1994) and completed by Levin & Lin (1992 and 2003), Levin, lin, Kao (2002) and Im, Pesaran, Shin (1997 and 2003). These tests are Levin, Lin and Chow (LLC), Bertong, Haudry, Im, Pesaran and Shin (IPS), Generalized Fisher-Dickie Fuller (ADF) and Fisher-Phelps Peron (PP) tests (Zaranejad and Anwari, 2005). The problem of the heterogeneity of the units is examined in the next step. Finally, the best method for estimating the model is selected using diagnostic tests among 3 Pooled models, fixed effects or random effects. The most common tests are the limers test, which investigates the preference of using a fixed effects model versus a combined model and the Hausman test, which examines the possibility of using fixed effects versus random effects. The assumptions of the Limer F test are as follows:

 $H_0: u_1 = u_2 = \dots = u_n = 0$

 H_1 : At least one of u_i is opposite to zero. (2)

The statistics of the above test will be as follows:

$$F((N-1)(NT - N - K)) = \frac{\frac{RSS_R - RSS_U}{N} - 1}{\frac{RSS_U}{NT} - N - K}$$
(3)

where RSS_R is the sum of the squared error of the bound or combined model and RSS_U is the sum of the squared error of the unrestricted model. Suppose the calculated F is greater than the F in the table. In that case, the null hypothesis is rejected, and thus the model is estimated by the panel data method (fixed or random effects). Otherwise, the OLS method estimates the combined model (Baltaji, 2005). After confirming heterogeneity, the Hausman test is used to choose between fixed or random effects models. This test is as follows:

$$W = (b_s \beta_s)(M_1 + M_0)^{-1} = (b_s \beta_s) ^{\sim}_{\sim} x^2(r)(4)$$

In the above relationship, r is the number of parameters, and w has x^2 distribution with r degree of freedom, where M_1 is the covariance matrix for the coefficients of the fixed effects model b_s . M_0 is the covariance matrix for the coefficients of the random effects model (β_s). If M_0 and M_1 are correlated, b_s and β_s can be significantly different. This issue may be reflected in the test. In the Hausman test, the null hypothesis indicates the choice of random method and the opposite hypothesis of fixed effects. Therefore, if the hypothesis is rejected, the fixed effects method is acceptable (Hsiao, 2003).

6554

5. Estimation of the research model

5.1 Model specification

Regarding previous studies, especially the study of Khan (2021), the following model is stated to conduct an empirical analysis and investigate the impact of human resource accounting on the organization's financial performance.

$$(HRA)_{it} = a_i + \beta_1 (PM)_{it} + \beta_2 (ROA)_{it} + \beta_3 (ROE)_{it} + \mu_{it}$$

It should be noted that the research variables are in the form of natural logarithms.

$$(LHRA)_{it} = \alpha_i + \alpha_{PM} LnPM_{it} + \alpha_{ROA} LnROA_{it} + \alpha_{ROE} LnROE_{it} + \mu$$

Where HRA is a dependent variable and a symbol of human resource accounting, PM is an independent variable and symbol of organizational profitability. The profit margin is used for this variable. ROA of asset return and ROE of stock return are independent research variables. The Codal site and the Iran Financial Information Processing Center site were used To collect the research data. The period of study is from 2001 to 2017. The companies we are considering are industry-oriented; therefore, we have used the following 12 companies. Stock exchange companies, agriculture groups and related services- stock Exchange Companies, Coal groups- stock exchange companies, oil and gas extraction groups- stock exchange companies, metal ore extraction groups- stock exchange companies, other mining groups- stock exchange companies, the textile groupstock exchange companies, oil products group- stock exchange companies, basic metals group- stock exchange companies, automobile group and parts group multi-disciplinary industrial manufacturingа of companiespharmaceutical materials and products group and list of OTC companies.

5.2 The unit root test

The presence or absence of unit roots in the model variables must be checked first to estimate the model. This work helps that the results of the estimates are not false, and more reliable results are obtained from the model (Mehrgan and Soltani Sehat, 2013). The estimation of the unit root test using the Levin, Lin and Chu method shows that all the variables are at the stationary level.

Table 1. The results of the unit root test by Levin, Lin and Chu method

Variables			Width of origin and trend	Result	
				level	
The le Accou	ogarithm of Inting (LHRA	Hum)	an Resource	-3.32 (0.0004)	I(0)
The Enter	logarithm prise (LPM)	of	Profitability	-3.59 (0.0002)	I(0)

6556

The logarithm of Return on Assets	-3.09	I(0)
(LROA)	(0.0010)	
The logarithm of return on equity	-5.05	I(0)
(LROE)	(0.0000)	

Source: output of eviews 8 software

5.3 Model estimation using panel data method

F. Limer's test is used to determine the type of model estimation using composite or panel data, and Hausman's test is used to determine the model estimation using fixed or random effects.

Test type	Dependent variable	Test statistics	probability level
F. Limer	Human Resource Accounting (HRA)	1.540819	0.1340
Hausmann	Human Resource Accounting (HRA)	5.205799	0.1573

Table 2

Tabl	e	3
		-

Variable	Coefficients	t statistic	The significance level
Enterprise Profitability Logarithm (LPM)	0.577957	1.664445	0.0991
The logarithm of Return on Assets (LROA)	-0.241143	-0.895559	0.3726
The logarithm of return on equity (LROE)	-0.355883	-0.838028	0.4040
AR(1)	0.944506	15.75220	0.0000
Intercept(C)	5.317539	1.687318	0.0946
F=25.94555		D-W=2.22	
PI0D=0.000000		K4=0.78	

Table 2 interprets the coefficient of the variable in question. Organizational profitability variable has a positive and significant effect on human resource accounting. The coefficient of organizational profitability shows the elasticity of organizational profitability concerning human resource accounting. Human resource accounting increases to 0.0991 with a one percent increase in organizational profitability. The determination coefficient of 0.78% indicates the high explanatory power of the model and states that the explanatory variables explain 0.78% of the changes in the dependent variable in the model. Durbin Watson's statistic of 2.22 shows a good explanation of the model and the absence

of econometric technical problems in the estimated model. The F statistic equals 25.94555, indicating the model's explanatory power.

Conclusion

The impact of human resource accounting on the financial performance of industry-oriented companies has been investigated using the panel data approach from 2001-2017. The results indicate that the concept of total cost profitability is the common point of every business activity concerning the company's profitability. In addition, profitability is dependent on the active use of any activity and resources available in the market. Harvard and Upton (1967) defined profitability as the benefit of correctly using invested money. Therefore, profitability is not a synonym for efficiency but is considered a tool to measure efficiency. Profitability does not indicate efficiency, but other characteristics include intangible assets, trademarks, and global recognition for efficiency. Therefore, net profit represents the clear balance between the value received and the value the organization spends. In this study, the organization's profitability positively and significantly affects human resource accounting, and this hypothesis is confirmed. This study result is consistent with the results of Khan's study (2021) and Karke Abadi and Sheikh Rabiei's study (2021). There are some points among the suggestions regarding the subject of our study. Due to the potential benefits of human resource accounting, this system and the human resource accounting information are used as the basis of decisions about human resource management, especially in the field of their transfer and promotion, because this issue leads to more rational decisions. A system should be designed to report human resource accounting information in a timely and reliable manner. The solution should be provided due to the lack of attention to disclosing human resource accounting information and appropriate solutions to solve this problem. Due to the lack of human resource valuation software, such software should be produced based on the existing models of human capital valuation and according to Iran's environment and reporting conditions. The implementation of the human resource accounting system in organizations and companies should be investigated in separate research.

References

- Abubakar, S. (2009). A critique of the concept of human resource accounting. Nigerian Journal of Accounting & Finance, 1, 93-105
- Baltagi, B. H. (2005). Econometric Analysis of Panel Data. John Wiley& Sons Inc, 3rd Edition, New York, USA.
- Bontis, N. (2004). National intellectual capital index: A United Nations initiative for the Arab region. Journal of Intellectual Capital, 5(1), 13-39.
- Demouri, Dariush; Akhlik, Mohammad Reza (2013), "Human resource accounting and its effect on the financial performance of companies listed in the Tehran Stock Exchange," 11th International Management Conference
- Flamholtz, E. (1973). Human resources accounting measuring potential replacement cost. Human Resource Management, 12(1), pp. 8-11
- Harvard, M & Upton, K. (1967). Introduction to Business Finance. New York: Mc Graw-Hill

- Karke Abadi, Mahdia; Sheikh Rabiei, Ruholah (2021), "The impact of human resource accounting on the financial performance of small and medium-sized enterprises (case study: plastofoam manufacturing companies in the southeast of Tehran"), International Conference on Management, Accounting and Economic Development
- Khan, S.(2021). Impact of human resource accounting on organizations' financial performance in the context of SMEs. Accounting 7, PP. 621–628
- Kumal Dhar, B & Mutalib, M.A & Sobhani, F.(2017). Investigating the Impact of Human Resource Accounting Practice on Organizational Performance. 1st International Islamic Social Economic Conference (IISEC)
- Kumar, S & Awasth, P. (2018). HUMAN RESOURCE ACCOUNTING AND ORGANIZATIONAL PERFORMANCE. Indian Journal of Accounting (IJA). Vol. 50 (1), pp. 21-27
- Nielsen, C., Bukh, P. N., Mouritsen, M. R, & Gormsen, P. (2006). Intellectual capital statement on their way to the stock exchange. Journal of Intellectual Capital, 7(2), 221 240.
- Riganto, B. (2001). Dasar-Dasar Pembelanjaan Perusahaan. Yogyalaarta Prastowo, Dwi (2002). Analisis Lapora n Keuangan:Konoep dan Alikasi. YKPN: Yogyakarta.
- Shabani Varnami, Mohammad; Mimarban, Irfan (2014), "Investigation of the relationship between financial performance of companies and human resource accounting disclosure in companies admitted to the Tehran Stock Exchange," International Conference on Management in the 21st Century
- Shakhawan Fattah, A.(2020). The Study on the Impact of Human Resource Accounting on Performance Evaluation. International Journal Of Multicultural and Multireligious understanding. 7(1),117-132
- Verguwen, P.G., & Alem, F.J. (2005). Annual report of disclosures in the Netherlands, France and Germany. Journal of Intellectual Capital, 6(1), 80-104.
- Zaranejad Mansour, Anwari Ebrahim, (2005), the use of composite data in econometrics, Economic Studies Quarterly, Vol. 4, pp. 21-52

6558