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Research Article

IMPACT OF HUMAN CAPITAL INCORPORATION ON ECONOMIC VALUE ADDED OF THE LARGE FIRMS USING THE CONCEPTUAL MANAGERIAL DECISION MAKING APPROACH (A CASE STUDY: SADERAT BANK OF IRAN)

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ABSTRACT
The investment is one of the key factors of economic development of the societies. To achieve the objectives of the investment, the investors require some measures for performance evaluation. Economic value added (EVA) is one of the measures contributing in making effective investment decisions. The human capital is a significant topic which requires careful attention in economic analysis. The present study seeks to examine the impact of human capital incorporation on the economic value added of the large firms. Using the data collected from Saderat Bank of Iran over a period from 2010 to 2013, it is found that the economic value added incorporated with the human capital becomes different from the EVA free of human capital. As a result, the incorporation of human capital impacts EVA. In addition, the incorporation of human capital in Saderat Bank of Iran had negative impacts over 2010 to 2012; however, this trend changed in 2013 and the economic value added of the bank became positive.

Keywords: *Human Capital, Economic Value Added, Conceptual Managerial Decision Making Approach*

INTRODUCTION
Investment is the main factor of economic growth and it is generally known as the total costs which cause the maintenance or increase of the manufacturing capacities and generating revenues. These costs do not only include the financial investments in the equipment, inventories and development of the natural resources; the costs, however, cover the human investment, research and development (R&D), education, in-service training, health and labor transition (Taghavi and Mohammadi, 2006).
The human capital has been discussed in the expert literature over the two prior centuries; however, this concept has been accompanied by the other factors in the economic analysis over the recent decades (Zadeh, 2008). Actually, the human capital has been highly significant so that the traditional models could not describe the whole aspects of the economic growth. In doing so, the human capital is identified as a factor which plays a key role in describing the unexplained growth (Souri and Mehrgan, 2006). Human capital, known as the labor quality or implicit knowledge of the human, causes the increase in the manufacturing and economic growth (Salehi, 2002).
Most economists believe that the lack of investment in human capital is the main reason of decreasing economic growth of the developing countries. They also argue that these countries should develop their education system and enhance the level of the professional skills to improve the return and efficiency of the labor and capital (Taghavi and Mohammadi, 2006).
On the other hand, the economic entities mainly aim at achieving profits in short-term and maximizing the wealth of the owners in long-term. This becomes possible by making rational investment decisions. It must be mentioned that making rational decisions has a direct relationship with the performance evaluation of the economic entities. To evaluate the performance, the measures and related indexes (generally classified as financial and non-financial categories) should be identified. Economic value added (EVA) is one of the financial measures used to evaluate the performance of the economic entities. It is known as one the most significant measures of performance evaluation (Roudeposhti, 2007).
EVA has been first introduced by Stewart in 1989. In the next years, various empirical studies have been conducted about this concept. For example, Fortune Journal (1993) published an article about the studies

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of Stewart and implementation of EVA in American firms. Since then, EVA has been discussed in accounting, management and economics and various papers have been published about economic value used as a measure for evaluating performance and determining managerial compensations. In his book titled "The quest for value", Stewart used the census of credit-worthy American firms to discuss about value added. He reminded of some difficulties of traditional measures of performance evaluation including earnings, earnings per share and earnings growth. By noting the related difficulties, he demonstrated that EVA is one of the most important measures of performance evaluation. Briefly, EVA can be defined as the difference of rate of return multiplied by the cost of the employed capital. In other words, the difference between rate of return and cost of the employed cost used for achieving this return creates EVA (positive or negative) for the firm (Mollahosseini, 2006).

Furthermore, it can be concluded that EVA is the value resulted from the excess of operating revenue over the cost of capital (Stewart, 1991). The present study seeks to examine the impact of considering human capital on calculating EVA for large enterprises by using a conceptual managerial decision making approach which helps organizations find the real value of EVA and increase the labor efficiency.

Statement of Problem

Maximizing the positive returns is one of the most significant objectives of the firms and it is considered as one of the most important incentives of the firms to maximize their profit to disclose a positive picture of the entity. It might be attributed to the concept of investment. Attracting investors' funds is regarded as an essential factor in the success of the organization. Performance evaluation is a concept which is discussed in terms of investment subjects, because the investors intend to make sure of the return on their invested funds. Information about the way the organization is working is one of the elements which help the investors to make sure of the return on their investment. The performance might be evaluated by using different indexes including EVA which has been highly considered by the financial and economic analysts over the last decades.

Labor is also another significant factor dealing with the growth and success of the organization. Many of the previous academics reminded of lack of professional skills of the labor and low quality of the labor (Souri and Mehrgan, 2006). The most important reason of low economic growth of the developing countries is the lack of skillful labor.

The present study aims to examine the impact of human capital, as the most important factor of economic growth of the developing countries, on creating EVA for the large enterprises over the years from 2010 to 2013 in Saderat Bank of Iran.

Literature Review

The literature review impacts the formation of the study. In this study, the literature review is presented in the first three chapters and the research background is provided in the last section.

The First Section: Eva

Value based management (VBM) is an approach intended to describe the concept and role of value in business; as a result, the performance evaluation measures based on either EVA or MVA might be identified. James A Knight believes that VBM makes the organizational people to learn to prioritize their decisions based on their perception from the contribution of these decisions to the firm value. It means that all processes and system should be oriented towards creating value for the organization. Value creation approach (VC) has been considered in financial, economic and business literatures and is considered as a basis for the value. Generally, value is known as a specific concept attributed by the human to some activities, moods and phenomena. Value is a variable with extensive conceptual meaning. The widespread meaning deals with the extensive disciplines and expert fields such as social, financial and economic values. The economic values are created from different tasks and instruments. These values provide the chance to use merchandise through dominance over nature.

Value added is the excess of value created from some operations and phenomena described and classified in terms of the framework of economic values. This value represents the difference in trading values (sale values) and the value of the purchased goods and services (intermediaries). Providing required information for the informed management such as rational performance evaluation and other managerial

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approaches are the main objectives of the value added. Generally, economic value added can be classified into three fields of economic, managerial and accounting. EVA is a financial measure of performance evaluation which is based on value added of economic field. The British economist, Marshal, argued that the earnings remaining after deducting interest is known as an earnings which is resulted from the managerial operation and performance. Economic value added is not a strategic governance approach; however, it is a way by which we could measure the results to evaluate the performance (Poshti, 2007).

The Second Section: Human Capital and its Definition

Human capital (HC) is an intellectual property which goes back to the houses of the employees every night (Fitz and ENJ, 2000). The value of human capital intrinsically returns back to the ability of the firms in achieving competitive advantage or core competencies (Lepak and Snell, 1999). It can be also concluded that human capital is the proficiency multiplied by commitment (Ulrich, 1998). Human capital is not owned by the company but it is guaranteed by the occupation. The individuals bring the human capital into the organization; however, it is developed by experience and training. The labors process the intrinsic abilities, behaviors and energies, discipline the elements of human capital and they possess human capital (not the employers). The labors determine the time and the way they impact human capital (Port, 1999). The human capital is known as a incorporationof knowledge, innovation and ability of the nations to accomplish the predetermined tasks and achieve the objctive values, cultrues and philosophy (Sign, 2008). Human capital is defined as the skills and proficiencies of the individuals for creating personal, social and economic welfare (OECD, 2001). In terms of ecnomic perspective, human capital is a measure for the economic values of the employees' skills. Human capital certifies that investing on the employees might enhance their proficiencies. Skills, experience and abilities of the employees have economic values for both employers and economy. From the financial perspective, human capital is the value created by the employees through using their skills and experiences.

The Third Section: Conceptual Managerial Decision Making Approach

As mentioned above, it is very important for the companies and organization to create economic value added because it causes the improvement of the performance and positive evaluation and more investment. This will finally lead to the economic growth of the organization. From the perspective of most economists, the lack of investment on the employees is the reason for the low economic growth of many entities. According to the above mentioned points, it can be concluded that economic value added and human capital play key roles in the economic growth and depvelopment of the entities. These two factors are suggested to be incorporated to develop the economic performance of the entities. The conceptual managerial decision making approach is a pattern which employs the cost of human capital in the weighted average of the cost of equity to incorporate human capital and economic value added to describe the economic situation of the firms.

The Fourth Section: The Research Background

Prior studies have investigated the significance of using EVA in evaluating the performance of the firms and they have also emphasized on the role of the human capital in the development of the economic growth. Some of the previous studies are mentioned below:

- Rahnema Roud Poshti (2007) evaluated the efficiency of EVA and market value added in evaluating the firm's performance. By examining the role of EVA in evaluating the performance, it was found that there is an association between EVA, EPS, P and ROI.
- Mollahosseini (2006) analyzed EVA in the Iran's National Copper company. He emphasized on the role of economic value added in making investment decisions by the investors.
- In a study about the human capital and economic growth, Emad Zadeh (1998) concluded that higher investments in training result in improving human capital and increasing the production ability of the nation and providing the opportunity of economic growth.
- In 2002, Salehi examined the effects of human capital on the economic growth of Iran and found that the human capital has positive and direct impact on the economic growth.

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- In another study by Taghavi and Mohammadi in 2006, it was documented that the growth of literacy level among the adults and the average growth of the education levels of the labor have significant positive impacts on the growth of gross national products.
- Dash et al (2013) examined the economic value added in large Indian enterprises over the years from 2011 to 2013. They demonstrated that by considering human capital, EVA of large enterprises becomes negative whereas EVA of the same organizations are positive without considering human capital.

MATERIALS AND METHODS

Methodology

This is an exploratory study using the conceptual managerial decision making approach and the required data is collected by some documents including the reports prepared by the financial department of the Saderat Bank of Iran. This study covers the years from 2010 to 2013 to examine the impact of the incorporation of human capital on the economic value added of the large enterprises.

Managerial Decision Making Approach

This model has been designed by Dash et al (2013) through a study conducted on the large enterprises of India. By including human capital to calculate economic value added, a incorporation of human capital in the weighted average of cost of capital (WACC) has been employed.

The productivity is used in the model to compute the book value of the human capital. Since quantifying human capital is a difficult task and it is not directly possible, the concept of profitability is used and finally, the earnings before interest, tax and depreciation (EBIITD) plus personnel costs are considered as the book value of the human capital (Dash et al, 2013).

This model acts as if the impact of human capital created by the tax benefits is included in the calculation of EVA because the personnel costs are regarded as a taxable cost. To compute EVAHC, the first equation is used:

EVAHC = NOPAT – WACC

Where in it ;

NOPAT = Tax cost - operating income

WACC = Total costs after tax

To calculate WACC, the following eqution is used:

WACC = Sum of the book value of the capital sources * rate of WACC

Rate of WACC is as follows:

$$\text{WACC } \% = \frac{\text{Total costs after tax} * 100}{\text{Human capital} + \text{Total book value of owners' equity}}$$

Total costs after tax include the costs after tax of owners' equity and the costs after personnel tax which require calculation.

The costs after tax of owners' equity is calculated by multiplying owners' equity by the rate of cost of capital. In this model, the rate of cost of capital is the average dividends after tax multiplied by the examined years (4 years). This methodreplicates for every year. That is, to calculate the rate of cost of capital for each year, the average dividends after the tax of the last year is used. For example, the rates of the cost of capital in this study for the years of 2012 and 2013 are computed as follows:

For the year of 2013= The sum of dividends after tax from 2009 to 2013 / 4

For the year of 2012= The sum of dividends after tax from 2008 to 2012 / 4

The personnel costs after tax are computed by using below equation :

Personnel costs after tax= personnel costs * (1- tax rate)

Finally, the rate of tax used in calculating the personnel costs after tax is calculated as follows:

$$\text{Tax Rate} = \frac{\text{Tax costs} * 100}{\text{Earnings after tax and before extraordinary items}}$$

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The calculations of the data about Saderat bank of Iran over the years from 2010 to 2013 are represented in table below:

Table1 : Calculations of the data over the years from 2010 to 2013

	2010	2011	2012	2013
Tax rate	10%	18%	19%	12%
Personnel costs after tax	8470896/3	9458768/06	10714733/46	15583757/2
Cost of capital rate	4/9%	7/825%	7/875%	7/6675%
Costs after tax of owners' equity	1590350/32	2816610/15	5861242/72	6408043/35
Total costs after tax	10061246/62	12275378/21	16575976/18	21991800/55
WACC %	17/49	21/7	17/24	18/61
WACC	10056339/5	12257627/13	16567091/76	21983372/54
NOPAT	8117992	5130055	4888767	11014697
EVAHC	-1938347/5	-7127572/13	-11678324/7	-10968675/54

As the next step, EVA without the incorporation of human capital is calculated by below equation:
EVA = NOPAT – WACC
The important point of upon equation is that the human capital is not considered in calculating WACC. The findings over the years from 2010 to 2013 are represented in table 2.

Table 2 : Calculating EVA over the years from 2010 to 2013

	2010	2011	2012	2013
EVA	1483054	1415223	-813372	-8869804

RESULTS AND DISCUSSION

The findings and results of the study are summarized in table 3 and chart 1.

Table 3 : Values of EVA and EVAHC over the years from 2010 to 2013

	2010	2011	2012	2013
EVA	1483054	1415223	-813372	-8869804
EVAHC	-1938347/5	-7127572/13	-11678324/76	-10968675/54

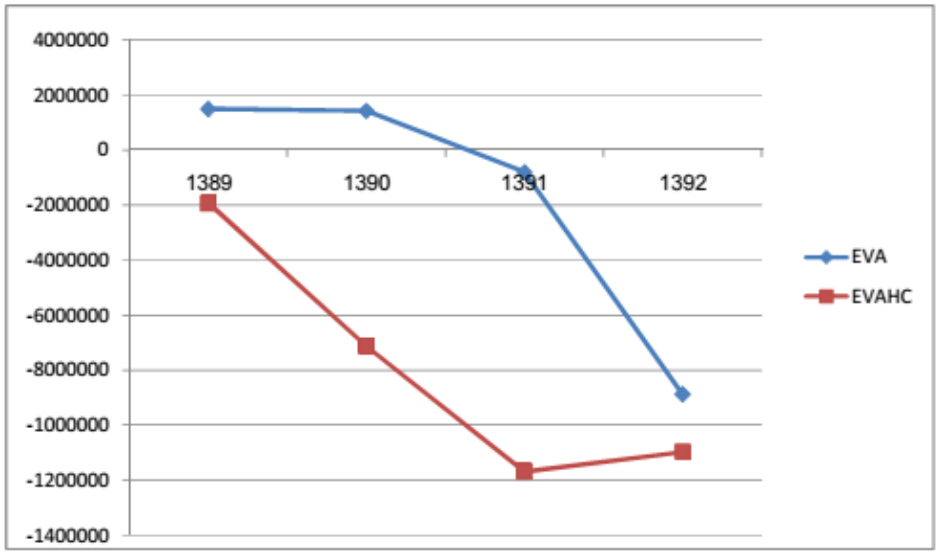

Chart 1: Comparing EVA and EVAHC over the years from 2010 to 2013

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Using the conceptual managerial decision making approach, the human capital is added in calculating economic value added in the Saderat Bank of Iran. The required data is collected for the years over 2010 to 2013. The new economic value added is then compared with the economic value added without the impact of human capital. Based on the findings of table (3) and chart (1), it is found that when the human capital is not considered in calculating EVA, the value of EVA declines until its figure becomes negative in 2012 and 2013. The calculations reveal that by considering human capital in EVA calculations, the value of EVAHC becomes negative from the beginning and it has a declining trend over the years from 2010 to 2012, but this trend changes from 2012 to 2013 and it has an upward trend (from -11678324.76 to -10968675/54). This confirms the positive impact of using human capital in calculating EVA of Saderat Bank of Iran in this period. As a consequence, it can be concluded that investment on human capital might increase economic value added and this causes an improvement in the firms' performance. It also has a direct positive impact on the performance evaluation and attraction of the investors' funds.

Suggestions Based on Research

Based on the findings of the study, the following suggestions are provided to enhance the economic performance of Saderat Bank of Iran:

- According to the declining trend of EVA of Sadert Bank of Iran over the years from 2010 to 2012, the bank is suggested to consider the factors of lack of appropriate return on investment in order to prevent this declining trend over the future years.
- Over a two-year period, from 2012 to 2013, EVA of the bank became increasing and it shows that the investment on human capital is effective and causes an increase in the economic value added of the bank. The Saderat bank of Iran is then suggested to invest more funds on training labors and identifying the effective factors of positive return of human capital and employing these factors in future years.

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