Investigating the Effective Factors between Costing on Human Resources Training and Returns of Companies Accepted in Tehran Stock Exchange

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Abstract

Costing on training always leads to the goal of increasing efficiency. Costing on training improves the quality of the workforce. In this study, the relationship between costing o human resource training and returns of companies accepted in Tehran Stock Exchange is investigated. Also, by calculating the ratio of training cost to company size, capital amount, sales rate, cash flow and shareholders' salary, the effectiveness of these ratios to the rate of companies' returns is investigated. The methodology in this study is panel data. And after model estimation and solving statistical problems, it is concluded that increasing in the training cost in companies leads to increasing the company's returns and companies should try to train their human resource in order to increase their returns. It is also concluded that there is a significant relationship between the ratio of training cost and sales rate indicators, cash flow, shareholders' salary and also company size and returns of companies in Tehran Stock Exchange. In this study, it is concluded that there should be more investment in the training sector in order to increase the stock return of companies in Tehran Stock Exchange.

Keywords: Training Cost, Stock Returns, Stock Exchange Market

Introduction

Training begins when people join the organization and continue until the end of their working time; because the organization requires to a regular training program and its accurate implementation in order to have people with a sufficient, efficient and effective ability to respond appropriately to the rapid environmental changes such as technology and competition. In other words, because people, businesses and organizations are always changing, training and improvement is essential.

Human resource training is one of the most reliable and fundamental ways of organizational improvement. In addition to training their talents, it improves methods and techniques of doing work, raises knowledge and enhances job skills and prevents loss of human and financial resources. Organizational training is a systematic and constructive process through which employees acquire the

skills they need to perform their job tasks. One of the main concerns of today's organizations is the human resource productivity and skill. One of the most effective factors in increasing the company's stock value is increasing the human resource productivity. Identifying effective factors on human resource productivity will have a determinant role in competitive advantage (Nazari Pour et al., 2012, 10).

Identifying effective factors on stock returns has always been the subject of many researches in the financial and accounting management literature. But major researches have been conducted to identify effective factors on stock returns, market data and financial data. However, today what distinguishes organizations from each other, apart from capital, technology, and raw materials, is expert and efficient human resource which in fact can be the most important factor in success or failure of the organization.

Therefore, the mere use of financial and market data and the lack of attention to the companies' human resource costs in the process of performance evaluation, prevents the users of financial statements information to make reasonable decisions and to have a comprehensive understanding of the companies' financial and operating conditions (Mahdavi and Sahl Abadi, 2012, 18).

Although the human resource costs in companies' financial statements is the first challenge in this field, but more importantly, the approaches to using data about companies' human resource costs in performance and financial status evaluation of companies are the ultimate outcomes of these information (Mahdavi and Sahl Abadi, 2012, 19).

Human skill is one of the most important factors in success and performance improvement and it is necessary to create a creative and happy environment in order to be able to employ the employees by the maximum motivation. Creating constructive communication, gaining feedback and improving performance requires the empowerment of human skills.

Training cost is the cost that the company assigns to new employees to train the skills they need. Training cost is the systematically and continuously improving cost for employees in terms of knowledge, skills and behaviors that help their well-being and their position in the organization. In fact, it is the cost that improves the employee performance (Abtahi, 2004, 5).

In addition to the role of top executives, supervisors are critical to the success of Human Resource Management (HRM) strategies and processes and can play a significant role in this regard (Mehrabi et al., 2010, 58).

Usually the most important criterion for performance evaluation of institutions is the stock return rate. This criterion alone contains information content for investors and is used to evaluate performance. When this criterion is reduced, it is a warning for the company and it indicates that the company performance is not good. This criterion has a lot of information content, because performance evaluation based on market value accurately reflects investors' information.

Return on the investing process of is a motivation and a reward for investors. Return means the total benefits which belong to a stock during a year (Khani, 2009, 3).

Considering that human skills are one of the most suitable criteria for the company growth and can help to strengthen and improve stock returns and earnings growth, therefore, it is essential to pay attention to this issue for company growth. So, in this study, the effect of this component on the stock returns of companies accepted in Tehran Stock Exchange will be investigated.

2- Research Hypotheses
2-1- Main Hypothesis
There is a significant relationship between the cost of human resource training and stock returns.
2-2- Secondary Hypotheses
A) There is a significant relationship between the ratio of training cost to the capital amount and stock returns.
B) There is a significant relationship between the ratio of training cost to the sales rate and stock returns.
C) There is a significant relationship between the ratio of training cost to the cash flow and stock returns.

D) There is a significant relationship between the ratio of training cost to the shareholders' salary and stock returns.

E) There is a significant relationship between the ratio of training cost to the company size and stock returns.

3- Theoretical Principles

Employee Training Cost: Training cost is the systematically and continuously improving cost for employees in terms of knowledge, skills and behaviors that help their well-being and their position in the organization. In fact, it is the cost that improves the employee performance (Abtahi, 2004, 5) and it is gained by the costs which the company assigns to train new employees.

Stock Returns: Stock return is the most important criterion for performance evaluation of institutions. This criterion alone contains information content for investors (Khani, 2009, 4). It is obtained by the total benefits which belong to a stock during a year.

Human Resource: Human resource is the personnel used by the company or organization. And it is obtained by the total number of employees in the organization.

The Ratio of Training Cost to Human Resource: This variable is obtained by dividing the training cost into the employees' number in the company. It indicated the average cost for each employee in the organization.

The Ratio of Training Cost to the Capital Amount: Capital is one of the most important factors in business and is the greatest tool for gaining profit. Each company should have capital, so that it can benefit from its own business operations. The importance of business companies can be understood by their capital. In this study, we use the ratio of training cost to the capital amount to determine how much of the capital of each company is allocated to the employee training.

The Ratio of Training Cost to the Sales Rate: Sale is to exchange every valuable thing such as goods, Securities, cash, services or information, definitively and permanently, or temporarily, with any other valuable thing such as goods, Securities, cash, services or information again definitively and permanently, or temporarily. In this study, we use the ratio of training cost to the sales rate to determine how much of company sales are obtained by training costs for employees.

The Ratio of Training Cost to the Cash Flow: Cash, which is the most important asset of a company, includes transactions with real or legal persons independent of the legal personality of the business unit and resulting from other events of each company. In this study, we use the ratio of training cost to the cash flow to determine how much do companies pay attention to their employees, and how much of a company's cash is assigned to this purpose.

The Ratio of Training Cost to the Shareholders' Salary: In a business company, shareholders' salary indicates the interests of the main owners. In this study, we use the ratio of training cost to the shareholders' salary to determine how much do shareholders pay attention to their employees and how much of shareholders' salary is assigned to this purpose.

The Ratio of Training Cost to the Company Size: Company size can indicate of the company's information efficiency. Usually larger companies have more capital to spend on the necessary costs. In this study, we use the ratio of training cost to the company size to determine how much the company size is related to the training costs. In Figure 1, the conceptual model is presented.

Conceptual Model

The Ratio of Training Costs to:
Human Resource
Capital Amount
Sales Rate
Cash Flows
Shareholders' Salary

Stock Returns
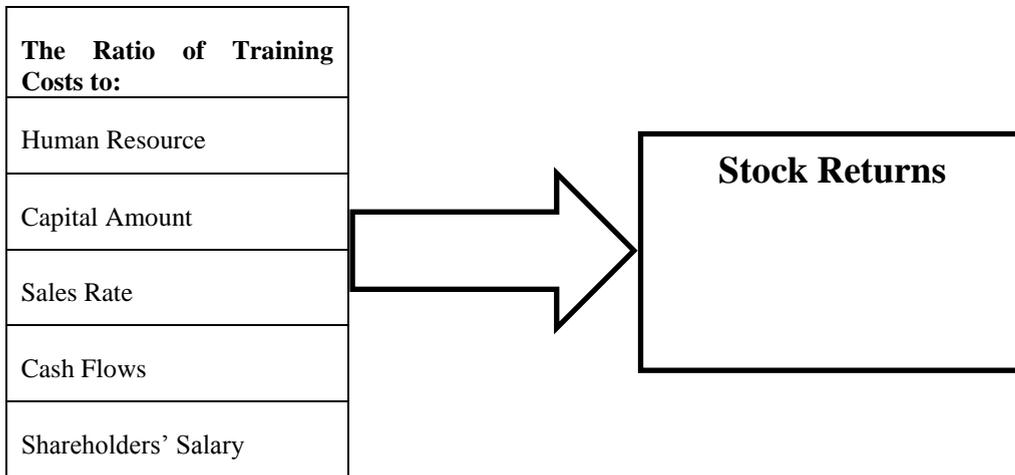
Figure 1: Conceptual Model

Reviewing studies and researches about the subject from a variety of sources, such as universities and supply and procurement centers for scientific and research resources, confirms that there is little research conducted in Iran on this subject, but relatively similar researches have been conducted, as follows:

4- Literature Review

Arab Salehi et al. (2013) investigated the relationship between social responsibility and financial performance of companies accepted in Tehran Stock Exchange. The results of their study show that there is NO significant relationship between financial performance and corporate social responsibility toward employees and the environment. Their study will help managers to develop effective corporate social responsibility policies that are needed to achieve their better financial performance in long term.

Vadiei and Hosseini (2012) investigated the relationship between performance evaluation criteria and abnormal stock returns in companies accepted in Tehran Stock Exchange. They conducted their study during 2005 to 2010 and used regression method. The results of their study show that among all performance evaluation criteria, there is a significant relationship between current ratio, future ratio, percentage of debt to total assets, total asset turnover, return on total assets, percentage of profit to non-profit share.

Abbasi and Galdi Sadafi investigated the effect of intellectual capital elements on performance of companies accepted in Tehran Stock Exchange. They concluded that the effect of physical and structural capital efficiency coefficient on annual return rate is positive but human capital efficiency coefficient on annual return rate is significant and negative. Also, their study results show that corporate financial performance can be better by higher intellectual capital.

Pew Tan et al. (2007) investigated the relationship between intellectual capital and financial performance in Singapore Stock Exchange. They concluded that there is a significant and positive relationship between intellectual capital and financial performance.

Tan et al. (2007) investigated the relationship between intellectual capital and financial returns and concluded that there is a significant and positive relationship between intellectual capital and current and future financial returns and in different industries, these effects are different.

Chin Chen et al. (2005) investigated the relationship between intellectual capital and stock market value and financial performance of companies in Taiwan Stock Exchange and concluded that higher intellectual capital would lead to financial performance improvement and increasing in the stock market value of the companies.

5- Methodology

This study is practical in terms of purpose and its data are through past information. It is correlational and descriptive in terms of collecting data which main purpose is to determine the relationship between the tested variables. In this study, in order to test the research hypotheses, the classified and audited financial data of companies accepted in Tehran Stock Exchange will be used. The research period is 6 years and it includes 2008 to 2013. Sampling method is screening and the statistical sample includes all companies that have the following conditions:

1- In order to meet their comparability, the financial year of the companies will end in March each year.

2- During the study period, no activity has been stopped and its financial period has not been changed.

3- All necessary information from companies is available for study.

4- Not included in banks and financial institutions (investment companies, financial intermediaries, holding companies and leasing companies).

After considering all above criteria, 50 companies are selected as screened population.

Table 1: Screening Population Selection Process

Total No. of Companies Accepted in Tehran Stock Exchange at the End of 2013	**471**
Total No. of Companies that Were NOT Active in the Tehran Stock Exchange during 2007-2013.	**(30)**
Total No. of Companies that Are Accepted in Tehran Stock Exchange after 2007.	**(184)**
Total No. of Companies that Are Included in Holdings, Investing, Financial Intermediaries, Banks or Leasing Companies.	**(39)**
Total No. of Companies that Changed Their Financial Year during 2007-2013.	**(40)**
Total No. of Companies that Stopped Their Activity during 2007-2013.	**(65)**
Total No. of Companies that Their Information Were NOT Available.	**(63)**
Total No. of Screened Companies	**50**

Table 2 shows the number of companies screened by industry.

Table 2: Frequency distribution of Screened Companies by Industry

	Industry	Sample No.
1	**Coal Mining**	**1**
2	**Extraction of other mines**	**2**
3	**Extraction of metal ores**	**0**
4	**Transportation, Warehousing and Communications**	**4**
5	**Technical and engineering services**	**1**
6	**Automotive and manufacturing parts**	**6**

7	**Computer and related activities**	**0**
8	**Manufacturing of metal products**	**0**
9	**Other non-metallic minerals**	**0**
10	**Cement, lime and plaster**	**7**
11	**Oil products, coke and nuclear fuel**	**1**
12	**Essential metals**	**4**
13	**Sugar**	**5**
14	**Tile and ceramic**	**4**
15	**Rubber and plastic**	**0**
16	**Machinery of electrical machines**	**2**
17	**equipment and machinery**	**3**
18	**Chemical products**	**3**
19	**Food products and beverages except sugar**	**3**
20	**Paper products**	**2**
21	**Pharmaceutical products**	**2**
22	**Medical and optical instruments**	**0**
50 Total		

5-1- Hypotheses Testing Model

In this study, the regression model is estimated based on Equation (1) and the Hypotheses are tested by using panel data and e-views 7 software.

(1)

$$SR_{i,t} = \beta + \beta_1 STw_{i,t} + \beta_2 STc_{i,t} + \beta_3 STs_{i,t} + \beta_4 STcf_{i,t} + \beta_5 STe_{i,t} + \beta_6 STa_{i,t} + \varepsilon_{it}$$

SR: Stock Return
STw: Training Cost to Human Resource
STc: Training Cost to Capital Amount
STs: Training Cost to Sales Rate
STcf: Training Cost to Cash Flow
STe: Training Cost to Shareholders' Salary
STa: Training Cost to Company Size
ε: Measurement Error in the Model

Table 3: Research Variables

Variable	Abbreviation Sign	Variable Type
Stock Return	SR	Dependent
Training Cost to Human Resource	STW	Independent
Training Cost to Capital Amount	STC	Independent
Training Cost to Sales Rate	STS	Independent
Training Cost to Cash Flow	STCF	Independent
Training Cost to Shareholders' Salary	STE	Independent
Training Cost to Company Size	STA	Independent

6- Findings
6-1- Main Hypothesis Test
To test the main hypothesis, the following regression model is investigated based on Equation (2).
(2)

$$SR_{i,t} = \beta. + \beta_1\, STw_{i,t} + \beta_2\, STc_{i,t} + \beta_3\, STs_{i,t} + \beta_4\, STcf_{i,t} + \beta_5\, STe_{i,t} + \beta_6\, STa_{i,t} + \varepsilon_{it}$$

The main hypothesis model is reviewed.

H_0: There is a significant relationship between human resource training and stock returns.

H_1: There is NO significant relationship between human resource training and stock returns.

First, to determine the estimation method, the Chow test is done according to Table 4 and, if necessary, the Husman test is done, and then the regression model will be estimated.

Table 4: The Results of F. Limer (Chow) Test for the Main Hypothesis

Obtained Statistic	Significance Level	Result
2/54	0/000	Using Panel Data

Husman test must be done according to Table 5 to select the effect type (Random or Fixed).

Table 5: The Results of Husman Test

Obtained Statistic	Significance Level	Result
0/000	1/000	Using Random Effects

The model estimation is done according to Table 6 by using random effects.

Table 6: The Estimation Results for the Main Hypothesis (Dependent Variable: Stock Return)

Variable	Coefficient	T-Statistic	Significance Level	Total Regression Model			
				F Statistic	Probe	Durbin Watson Test	Squared Correlation Coefficient
Width of the Origin	9/12	3/78	0/0002	3/86	0/0008	1/82	0/72
Training Cost to Human Resource	0/0003	2/008	0/04				
Training Cost to Capital Amount	8/59	3/74	0/0002				

Training Cost to Cash Flow	**-0/22**	**-0/71**	**0/46**				
Training Cost to Shareholders' Salary	**-8/29**	**-3/68**	**0/0002**				
Training Cost to Company Size	**-0/47**	**-1/26**	**0/20**				
Training Cost to Sales Rate	**-11/44**	**-3/23**	**0/0013**				

Training Cost to Human Resource has a significant and positive effect on Stock Return.

The F-statistics model suggests a fitting regression model.

The variables explain the stock returns up to 72% due to the determination coefficient.

The Durbin Watson statistics show that there is no serial dependency in the model.

The main hypothesis is confirmed.

6-2- Secondary Hypotheses Test

A) 1st Hypothesis

H_0: There is a significant relationship between the ratio of training cost to the capital amount and stock returns.

H_1: There is NO significant relationship between the ratio of training cost to the capital amount and stock returns.

The regression model is written as Equation (3).

(3)

$$SR=\alpha+\beta*STC$$

The regression model estimation for the 1st hypothesis is presented in Table 7.

Table 7: The Estimation Results for the 1st Hypothesis (Dependent Variable: Stock Return)

Variable	Coefficient	T-Statistic	Significance Level	Total Regression Model			
				F Statistic	**Probe**	**Durbin Watson Test**	**Squared Correlation Coefficient**
Width of the Origin	**4/09**	**21/05**	**0/000**	**3/45**	**0/0000**	**2/28**	**0/36**
Training Cost to Capital Amount	**-0/01**	**-1/09**	**0/27**				

According to Table 7, there is NO significant relationship between the ratio of training cost to the capital amount and stock returns and the 1st hypothesis is rejected.

B) 2nd Hypothesis

H_0: There is a significant relationship between the ratio of training cost to the sales rate and stock returns.

H_1: There is NO significant relationship between the ratio of training cost to the sales rate and stock returns.

The regression model is written as Equation (4).

(4)

$$SR=\alpha+\beta*STS$$

The regression model estimation for the 2nd hypothesis is presented in Table 8.

Table 8: The Estimation Results for the 2nd Hypothesis (Dependent Variable: Stock Return)

Variable	Coefficient	T-Statistic	Significance Level	Total Regression Model			
				F Statistic	Probe	Durbin Watson Test	Squared Correlation Coefficient
Width of the Origin	2/09	21/05	0/000	1/74	0/0000	2/14	0/22
Training Cost to Sales Rate	0/002	2/09	0/04				

According to Table 8, there is a significant and positive relationship between the ratio of training cost to the sales rate and stock returns (The 2nd hypothesis is confirmed).

Determination Coefficient indicate that the ratio of training cost to the sales rate explains up to 22% of stock returns.

C) 3rd Hypothesis

H_0: There is a significant relationship between the ratio of training cost to the cash flow and stock returns.

H_1: There is NO significant relationship between the ratio of training cost to the cash flow and stock returns.

The regression model is written as Equation (5).

(5)

$$SR = \alpha + \beta * STCF$$

The regression model estimation for the 3rd hypothesis is presented in Table 9.

Table 9: The Estimation Results for the 3rd Hypothesis (Dependent Variable: Stock Return)

Variable	Coefficient	T-Statistic	Significance Level	Total Regression Model			
				F Statistic	Probe	Durbin Watson Test	Squared Correlation Coefficient
Width of the Origin	4/94	334/56	0/000	3/41	0/0000	2/28	0/34
Training Cost to Cash Flow	0/001	2/76	0/02				

According to Table 9, there is a significant and positive relationship between the ratio of training cost to the cash flow and stock returns (The 3rd hypothesis is confirmed).

Determination Coefficient indicate that the ratio of training cost to the cash flow explains up to 22% of stock returns.

D) 4th Hypothesis

H_0: There is a significant relationship between the ratio of training cost to the shareholders' salary and stock returns.

H_1: There is NO significant relationship between the ratio of training cost to the shareholders' salary and stock returns.

The regression model is written as Equation (6).

(6)

SR=α+β*STE

The regression model estimation for the 4th hypothesis is presented in Table 10.

Table 10: The Estimation Results for the 4th Hypothesis (Dependent Variable: Stock Return)

Variable	Coefficient	T-Statistic	Significance Level	Total Regression Model			
				F Statistic	Probe	Durbin Watson Test	Squared Correlation Coefficient
Width of the Origin	10/15	10/41	0/000	42/20	0/0000	1/83	0/04
Training Cost to Shareholders' Salary	-8/03	-5/89	0/000				

According to Table 10, there is a significant and negative relationship between the ratio of training cost to the shareholders' salary and stock returns (The 4th hypothesis is confirmed).

The shareholders' salary explains only 4% of stock returns.

E) 5th Hypothesis

H$_0$: There is a significant relationship between the ratio of training cost to the company size and stock returns.

H$_1$: There is NO significant relationship between the ratio of training cost to the company size and stock returns.

The regression model is written as Equation (5).

(5)

SR=α+β*STA

The regression model estimation for the 5th hypothesis is presented in Table 11.

Table 11: The Estimation Results for the 5th Hypothesis (Dependent Variable: Stock Return)

Variable	Coefficient	T-Statistic	Significance Level	Total Regression Model			
				F Statistic	Probe	Durbin Watson Test	Squared Correlation Coefficient
Width of the Origin	10/15	10/41	0/000	3/46	0/0000	2/27	0/37
Training Cost to Company Size	-0/14	-2/39	0/03				

According to Table 11, there is a significant and negative relationship between the ratio of training cost to the company size and stock returns (The 5th hypothesis is confirmed).

Determination Coefficient indicate that the ratio of training cost to the company size explains up to 37% of stock returns.

7- Conclusion

Given that the results of statistical surveys show that there is a relationship between human resources training costs and returns of companies accepted in Tehran Stock Exchange, here are some suggestions:

A) Suggestions by the Results of Hypotheses Test

1- Training cost of employed personnel in companies initially increases costs for the company. But according to the results of this study, not only these costs are extra costs for the company but also increase the stock return and ultimately increase the profitability. Therefore, companies should pay attention to this issue and cost on employee training.

2- The Ratio of training cost to the capital amount of companies accepted in Tehran Stock Exchange is still very low and it is suggested that companies spend a larger proportion of their capital on specialized training so that they can see their profitability in future.

3- Specialized training also increases the sales rate of companies and companies provide training for marketers and even buyers of their products in order to increase their stock returns.

4- In the case of having a cash surplus in the companies, it is suggested that they prioritize these funds on the training sector; because according to the results, this will increase the stock returns.

5- Despite the higher cost of specialist employees than employees by less expertise, the use of specialist employees, according to the results of this study, will increase stock returns and it is suggested that companies increase their stock return by employing specialist employees and costing on pre-employment training.

6- The larger the company size is, the company development depends on the training cost of various workforces, agents and buyers. It is suggested that companies prioritize training cost among the costs of larger companies.

7- Different trainings for employees should be classified. And at first, they cost on training related to increasing the expertise of employees and increasing their safety by companies and then other trainings will be set as a scheduled program for the company.

B) Suggestions for Future Studies

1- Training required for companies should be classified and the effect of cost on each of them on corporate financial performance should be investigated.

2- The optimal cost on training sector should be calculated according to the capital amount and the employees and investors number in the companies by using algorithmic methods.

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