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Original Article

Effect of Received ISO 9000 Certification on Financial Performance such as Liquidity Ratios and Leverage Ratios

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ABSTRACT

The purpose of this paper is to study the correlations between the effect of ISO 9000 certification and financial performance companies. This statistical research includes 60 active companies in Tehran Stock Exchange during the financial years of 2008 to 2010.By year2004 they were awarded the ISO certification, which has 30 companies ISO certification and 30 companies without ISO certification and classification of randomly. To specify the correlations, 5 hypotheses have been considered and to examine them, the tests of correlation and regression Log it were used. Hypothesis were established based on the correlation between ISO 9000 certification and the ratios current, quick ratio and the ratio cover the financial costs, debt ratio and the debt to equity rati.The results show that there is a strong correlation between Liquidity Ratios and ISO 9000 certification and a weak correlation between leverage ratios with ISO 9000 certification. Among main variables, current ratios, quick ratio and the ratio cover the financial costs have the best effect on ISO 9000 certification. Therefore, that investors recommended should consider when investing in this topic.
Keywords: ISO 9000 Certified, Financial Performance, Liquidity Ratios, Leverage Ratios, Stock Exchange

INTRODUCTION

As regards to the company significant amounts of money every year to pay for the certification of ISO 9000 series Is necessary that ratio effective catch this the certificate on of the financial indicators of knowledge discussed because that in this topic revealed and awareness corporate managers Level effective This tool extant has a clear on the economic activities So that the true nature at least and performance of cause eliminate many of the uncertainties Provided and advertising spending has been out of the state and that will corporations with more confidence for taking or not taking steps. In Iran, as for the lack of a comprehensive study on the financial impact of catch this the ISO 9000 series certification This have been tool effectively identified industries and some public economic activities And some companies without full knowledge of the important effects that have attempted to obtain Rather than other aspects of campaign highlighting the issue described And therefore, reason to the lack of competition in the domestic level production of this important tool, actually remained in teach It is not expose potential important. Accordingly, the present approach seems to Study accurate this topic can determine the best practical solutions for using or not using this tool at least in the Iran disposal will of the owners professional say It can be expected that a better understanding of the financial performance of companies with ISO 9000 (especially to increase sales and profitability) cause make good financial position and operating show a growing trend of companies.

In this section some of the external and internal researches conducted during the past years are reviewed. Corbett et al. [1] report those 3 years after certification, ISO 9000 registered firms exhibit. A significant increase in return on assets, return on sales, intangible assets, sales growth, and the sales to assets ratio relative to noncertified firms. Simmons et al. [2] observed a sample of 63 certified electronics companies and report higher profitability versus a noncertified control group. They also found no significant difference in the sales to equity ratio.

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Martins Costa et al. [3] to study the Certificate of ISO 9000 performance of financial firms, the Spanish began and four variable financing of growth in sales, return on assets, increased operational costs, profit before tax 713 Spanish company studies and found that ISO 9000 certification has a positive impact on businesses and can even reduce the profitability of companies. Sharma [4] The effect of the certificate of ISO 9000 focuses on three aspects of financial performance, including growth in sales, return on sales, profitability per share, and 70 companies in Singapore for a period of 6 years to investigate and found that the Certificate of ISO 9000 and the three aspects There is a positive and significant relationship between financial performance. Mac Adam et al. [5], the study companies small businesses that ISO certificate receiving that these companies after receiving the iso certificate, for TQM to work successfully. It also leads to better control the companies businesses, increase sales, reduce costs, increase productivity and customer satisfaction is higher. Sun [6], in his study on Norwegian companies, received which ISO certification mainly the result of the reduced partial products, customer complaints and improve business performance, including profitability and productivity are related. However, little impact on market conditions, competition. Haversjo [7] argued that quality systems such as ISO 9000 certification would improve internal and external quality and consequently improve profitability. He investigated differences in the rate of return of ISO 9000 certified and non-ISO certified Danish companies.4 His results based on 664 companies showed significantly higher rate of return for ISO 9000 certified companies than their size-matched counterparts. The difference in performance between ISO companies and non-ISO companies was 20% in the year prior to certification and approximately 35% 2 years after certification. Heras, Casadesus, et al. [8] provided evidence of certified Spanish firms out performing non-certified firms. Using return on assets (ROA), their univariate tests show that the ISO 9000 certified firms achieved 24% to 45% higher ROA than non-certified firms over a 4-year period. Terziovski et al. [9] used ANCOVA and MANCOVA to test relationship between ISO 9000 certification and organizational performance covered for company size. The results showed that company size does have an effect on the hypothesized relationships. However, the study did not gauge perceptions from auditors, and the sample size consisted of only manufacturing companies. This study focuses on all industry sectors of companies certified to ISO 9000 and the auditing fraternity of the largest third party certifier in Australia, Quality Assurance Services. The covariates, company size and number of years an organization has been certified may also have an effect on the hypothesized relationships. For example, larger certified organizations may have greater success with ISO 9000 certification due to the larger level of resources available to them to pursue the implementation process. [9]. The overall goal is to provide new evidence regarding the signaling hypothesis of ivied by presentation of a new approach in order to test the hypotheses.

Special objective is to investigate and to recognize the factors related to affect received ISO 9000 certification on financial performance. By performing this study, it is expected that investors, financial managers and practitioners with a better understanding of the factors related to effect ISO 9000 certification on financial performance and implementation of the appropriate and effective policies lead to increase financial performance. The scope of this research is the listed companies in Tehran Stock Exchange between financial years of 2008 to 2010. Since in recent years the number of the listed companies on the Stock Exchange has been remarkably increased and stock database system within these years has been significantly grown, using the information of 60 active listed companies in Tehran Stock Exchange, the research was preceded. If longer duration is considered, the number of sample companies and the sample population will be declined; and the validity of this research was reduced Analysis of Factors Related to Future Earnings Changes in Capital Market.

According to the description of proposed research, the hypotheses were developed as follows: ISO certified and there is a significant relationship between current ratio.

H1: there is a significant relationship between standards Certification ISO 9000 and current ratio

H2: there is a significant relationship between standards Certification ISO 9000 and quick ratio

H3: there is a significant relationship between standards Certification ISO 9000 and Debt ratio

H4: there is a significant relationship between standards Certification ISO 9000 and Debt to equity ratio

H5: there is a significant relationship between standards Certification ISO 9000 and interest expense coverage ratio

MATERIALS AND METHODS

The present study is systematic and applied. Generally, the purpose of an applied research is to develop the practical knowledge in a particular field. The research method and nature is of a correlation type implying the examination of the relationship between variables through regression and using past data methodology. We use the regression model in order to test the hypotheses. $ISO_{it} = \omega_0 + \omega_1 CR_{it} + \varepsilon_{it}$: $\boldsymbol{ISO}$ = Dependent variable: ISO and non- ISO companies. $\boldsymbol{CR_{it}} =$ Independent variables: current ratio, quick ratio, debt ratio, debt to equity ratio, interest expense coverage ratio.

Dependent variable

ISO' a series of international guidelines for quality control. ISO 9000 pertains specifically to the criteria that need to be met during the manufacturing process. These guidelines do not guarantee product quality, but merely the standards used in the production of goods. ISO was coded 1 for firms that attained certification and 0 otherwise

Independent variables

Current Ratio: A liquidity ratio that measures a company's ability to pay short-term obligations .

Current ratio = Current Assets / Current Liabilities

Quick Ratio: An indicator of a company's short-term liquidity. The quick ratio measures a company's ability to meet its short-term obligations with its most liquid assets. The higher the quick ratio, the better the position of the company

Quick Ratio = (Current Assets - Inventories) / Current Liabilities

Debt Ratio: Compares a company's total debt to its total assets, which is used to gain a general idea as to the amount of leverage being used by a company. A low percentage means that the company is less dependent on leverage, i.e., money borrowed from and/or owed to others. The lower the percentage, the less leverage a company is using and the stronger its equity position.

Debt ratio = total debt/ total assets

Debt-equity ratio: Is another leverage ratio that compares a company's total liabilities to its total shareholders'equity? This is a measurement of how much suppliers, lenders, creditors and obligors have committed to the company versus what the shareholders have committed

Debt-equity ratio = total liabilities/shareholders' equity

EBITDA-To-Interest Coverage Ratio: A ratio that is used to assess a company's financial durability by examining whether it is at least profitably enough to pay off its interest expenses. A ratio greater than 1 indicates that the company has more than enough interest coverage to pay off its interest expenses.

EBITDA-To-Interest Coverage Ratio = EBITDA / interest payments

Pearson correlation coefficients

Pearson correlation coefficients in figure (1) are provided. These statistics to check for correlation between variables are used. The results presented show that between the two variable ISO value and variables ratio quick (-0.19) and ratio cover the financial costs (0.60) There is a significant correlation at 1% level. Correlation between the ISO and the current ratio (-0.15) is significant at the 5% level. The current ratio and quick ratio variables (0.86), debt (-0.59) and cover the financial costs (- 0.30) there is a significant correlation at the 1% level.

Chart1. Pearson correlation coefficients

Variable	ISO	CR	QR	DR	DEQR	INTR
ISO	1					
CR	-0.15** (0.05)	1				
QR	-.19*** (0.01)	-.86*** (0.00)	1			
DR	0.08 (0.29)	-0.59*** (0.00)	-0.42*** (0.00)	1		
DEQR	-0.02 (0.82)	-.16** (0.04)	-0.10 (0.16)	0.26*** (0.00)	1	
INTR	0.60*** (0.00)	-.30*** (0.00)	-0.32*** (0.00)	0.20*** (0.01)	0.04 (0.58)	1
***The level of significance respectively %5 ، %1						

The correlation coefficient between the current ratio and debt-to-equity ratio (-0.16) is significant at the 5% level. Between the variables quick ratio and debt ratio (-0.42) and financial coverage ratio (-0.32) there is a significant correlation at the 1% level. Correlation coefficients between the variables debt ratio and debt-to-equity ratio (0.26) and cover the financial costs ratio (0.20) is also significant at the 1% level.

RESULTS

To study hypotheses one to five research, models (1) to (4) the log it regression using the combined data are estimated. Log it regression of the dependent variable (double value) is selected.in addition to estimating models; the accuracy of prediction models is also presented.

The estimation results of model (2) and test the first research hypothesis:

In order to test the first research hypothesis, the model (1) to the log it method estimation and results are in same model presented. The results presented show that the intercept (0.78) and the coefficient current ratio (-0.67), respectively, at the level 5% and 10% significant. Rastnmayy statistic significant proportion (3.94) at the level 5% that the overall model is significant. Mac Fadn statistics show that the current variable ratio only about 2 percent of variability Dependent variable two the iso value explains .low statistics is the two models value the usual Subject.

Naturally To determine the accuracy of the prediction model, the analyst expectations -predict for to the two models value used. The analysis results show that the model (1) about 51 percent of companies ISO and 56 percent of companies without ISO correctly predicted. Percent of the overall prediction accuracy of the model is about 54%.

Significance of coefficient variable current ratio show that the relationship is Significance between current ratio and ISO 9000 certified. Therefore, the first research hypothesis is not rejected.

Table 1. The estimation results of model (1)

$$ISO_{it} = \omega_0 + \omega_1 CR_{it} + \varepsilon_{it}$$

Variable	Coefficient	Statistics *Z*	Significant
Intercept	*0.78	1.80	0.70
CR	**-0.67	-1.93	0.50
Ratio statistic (significant)		(0.05)3.94	
Coefficient of determination Mac Fadn		%1.58	
Percentage of correctly predicted cases- ISO		%51.11	
Percentage of correctly predicted non- ISO		%57.78	
Percentage of the correct size models		%44.54	
**,*The level of significance respectively %5, %10			

The estimation results of model (2) and test the Second research hypothesis:

To test the two research hypothesis, the model (2) to the log it method estimation and results are in same model presented. Results of the regression test in Table 3 shows that highest amount of the explained relationship between girls and boys is related to the satellite with beta coefficient of 0.14 and lowest one is contributed to the Internet with a beta coefficient of 0.07.

Table 2. The estimation results of model (2)

$$ISO_{it} = \omega_0 + \omega_1 QR_{it} + \varepsilon_{it}$$

Variable	Coefficient	Statistics *Z*	Significant
Intercept	**0.79	2.23	0.03
QR	***22/1-	-2.49	0.01
Ratio statistic (significant)		6.78*** (0.01)	
Coefficient of determination Mac Fadn		%2.75	
Percentage of correctly predicted cases ISO		%58.79	
Percentage of correctly predicted non- ISO		%60.00	
Percentage of the correct size models		%59.44	
***, ** The level of significance respectively %1 ، %5			

The results presented show that the intercept (0.79) and the coefficient quick ratio (-1.22), respectively, at the level 5% and 10% significant. Rastnmayy statistic significant proportion (6/87) at the level 1% that the overall model is significant. Mac Fadn statistics show that the current variable ratio only about 3 percent of variability dependent variable two the ISO value explains.

Expectations analysis -prediction show that with use of the model (2), about 59 percent of companies and 60 percent of companies without ISO correctly predicted. Percent accuracy predictive overall of the model is about 59 percent. Significance of coefficient variable quick ratio show that the relationship is Significance between quick ratio and ISO 9000 certified. Therefore, the two research hypothesis is not rejected.

The estimation results of model (3) and test the third research hypothesis

To test the third research hypothesis, the model (3) to the log it method estimation and results are in same model presented. The results presented show that the intercept (-0.67) and coefficient variable debt ratio (1.07) There are not any significant. The lack of significant statistics Rastnmayy (1.15) indicated that the model value overall is not significant.quntity Mac Fadn% 0.46 is minimal and the change of dependent variables little explain.

However, Expectations analysis - prediction show that with use of the model (3), about 59 percent of companies and 58 percent of companies without ISO correctly predicted. Percent accuracy predictive overall of the model is about 59 percent.

There is not Significance of coefficient variable debt ratio show that the relationship is not Significance between debt ratio and ISO 9000 certified .Therefore, the third research hypothesis is rejected.

Table 3. The estimation results of model (3)
$$ISO_{it} = \omega_0 + \omega_1 DR_{it} + \varepsilon_{it}$$

Variable	coefficient	Statistics *Z*	Significant
Intercept	-0.67	-1.02	0.31
DR	1.07	1.05	0.29
Ratio statistic (significant)		(0.28)1.15	
Coefficient of determination Mac Fadn		%0.46	
Percentage of correctly predicted cases ISO		%58.89	
Percentage of correctly predicted non- ISO		%57.78	
Percentage of the correct size models		%58.33	

The estimation results of model (4) and test the fourth research hypothesis to test the fourth research hypothesis, the model (4) to the log it method estimation and results are in same model presented.

Table 4. The estimation results of mode
$$ISO_{it} = \omega_0 + \omega_1 INTR_{it} + \varepsilon_{it}$$

Variable	Coefficient	Statistics *Z*	Significant
Intercept	*0.40	1.88	0.60
INTR	***0.44	4.90	0.00
Ratio statistic (significant)		134.00***	
Coefficient of determination Mac Fadn		%53.70	
Percentage of correctly predicted cases ISO		%85.56	
Percentage of correctly predicted non- ISO		%85.56	
Percentage of the correct size models		%85.56	
*, ***The level of significance respectively %10 ، %1			

The results presented show that the intercept (0.40) and the coefficient variable interest expense coverage ratio (0.44),respectively, at the level 10% and 5% significant. Rastnmayy statistic significant ratio (134/00) at the level 1% that the overall model is significant. Mac Fadn statistics show that the coefficient variable interest expense coverage ratio about 54 percent of variability dependent variable two the ISO value explains.

The results analysis -prediction show that with use of the model (4) about 86 percent of companies and 86 percent of companies without ISO correctly predicted. Percent accuracy predictive overall of the model is about 86 percent.

Significance of coefficient variable interest expense coverage ratio show that the relationship is Significance between coefficient variable interest expense coverage ratio and ISO 9000 certified .Therefore, the fifth research hypothesis is not rejected.

DISCUSSION

The results showed that ISO 9000 certification on the financial performance and especially liquidity ratios, companies Iran on the capital market has a positive effect .Naturally can be said that the two hypotheses present the leverage ratio is not approved it is that receive the certification of ISO 9000 is not difficult and most companies with a course audit receive ISO certification and firms audit a supervision comprehensive on implementation of do not license and another reason is in the Iran governmental institute standard. Or economic conditions companies and view senior managers on how to be certified. In this study, the ISO 9000 standards on reason to increase in sales and profitability, control and reduce costs on the liquidity ratio is effective positive. Because companies that ISO 9000 standards are used around the time of its advertising makes TQM to successfully pursue that it quality management author the increase in, sales, return on assets, productivity, decrease costs, that in the increase sale has to direct relationship liquidity because cash flow is one of the important items of current assets that it will reduce the current debt increases liquidity ratio.

The study are limitations as follows, some of which may have an important effect on the validity of the study include:

A) The first limitation of the study, differences in the characteristics of companies that can be effective on the results. Features like various fields of industry, ownership type, and composition of shareholders, stock market volume (volume basis) support or market battalion by the major shareholder for the company and samples to be different.

B) The results this study is not of the non- listed companies about companies SMEs general future research could such companies have a major role in the world economy should consider. However, it is likely the data available for such analysis is limited.

Some topics suggested for future research include:

1) The effect of ISO certification on financial and non-financial measures companies.

2) The effect of ISO certification on non-stock companies and compares them with stock companies.

3) The effect certification ISO 9000 on the companies' performance in periods other than the period of study.

4) The effect certification ISO 9000 on the financial performance of companies international.

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