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The Role of Information Technology on Management of Risks in the Capital Market (Case Study: Companies Listed in Tehran Stock Exchange)

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Abstract

The aim of this study was to determine the impact of information technology in management of risks in the capital market-listed company is in Tehran Stock Exchange. The purpose of the present study is an applied descriptive approach. The target population for the survey, companies that from 2009 to the first half of 2015 have been a member of the Tehran Stock Exchange, through Cochran's sample size of 140 companies, respectively. We used cluster sampling method. In order to collect data from two questionnaires: risk management questionnaire Foakeh (2013) has 38 items and a standard questionnaire Chanvyas (2006) has 40 items, the whole five-item Likert scale questionnaire is above has been used. Data gathered through the questionnaire, sign the application was 21spss. For inferential analysis of the variables and to analyze the data from different statistical tests and regression was used Kolmogorov-Smirnov test. The results showed that information technology on risk management and its dimensions (primary market risk, market risk and the risk of secondary non-financial) impact.

Keywords: Information Technology, Risk Primary Market, Secondary Market Risk, Non-Financial Risks, Risk Management

1. Introduction

The transformation of the global economy in recent decades and economic development have led to the development and development of numerous financial instruments. In addition to the expansion of traditional physical and financial assets, financial derivative transactions have also accelerated.

The uncertainty surrounding the environment and the intensity of the competition between organizations and managers has challenged them with many challenges. The interconnection of the Internet and electronic communications will put valuable studies in an inadvertently endangered manner. With every advancement in technology, new risks are created, many of the old risks remain, and as a result, the risk inventory (the cumulative frequency of risks) increases. As stated, there is no escape from risk, and human society must look for ways to deal with it. Decisionmaking in IT-based fields, projects and systems is also not risk-free and therefore, risk management policies and procedures should be considered in this area and supported by relevant decisions. In any organization that uses automated information technology systems to fulfill its mission and mission. Risk management plays a critical role in supporting the organization's information resources.

Risk management helps managers manage their operational and economic costs and help them make the best decisions. An appropriate risk management approach, if properly implemented, can help managers identify appropriate control factors. So as to ensure the security of the research mission of the organization and thus can guarantee the survival of the organization and protect the organization from the risk of small and large existing risks. In fact, the risk management process should be considered as part of a strong information security organization program. Because it is very necessary to apply risk management to support the organization and its mission in today's dynamic environment.

Newcomer upsurge in the IT industry in Iran and the high potential of experts as well as major organizations and institutions in the country have provided a good opportunity for serious attention to the development of IT expertise and infrastructures. Given the fact that today, the economic well-being of nations is directly related to their level of skills in information and communication technology, it is appropriate to provide ICT with the development of scientific and research fields. The development of IT infrastructure is something that will happen in the future, with issues such as educational development and cultural development, both of which are the tools of knowledge societies. Information

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technology as knowledge and as an industry has a high degree of entrepreneurship and as a result of its proper utilization and its managed development in Iran can have beneficial effects in our country's economic corpora.

2. Literature Review

Choline and colleagues (2015) state in an article entitled "Information and Communication Technology as a Key Strategy for Supply Chain Management for Small and Medium-Sized Manufacturing Companies": The importance of working in an analytical region (Aguascalinets)There were few studies on the manufacturing industry, especially in aspects related to factors that influenced productivity and thus competitiveness. A review of the supply chain management and the strategies followed by this industry explains the region's economic growth in recent years, improves its infrastructure, and dramatically increases the number of businesses, and most importantly, the main reason for almost all exports. The region has been; therefore, this research is especially needed for small and medium enterprises, despite the presence in the most dynamic sub sector in the industry, there are very challenging problems in terms of how to organize and how to link with other sectors in terms of overall productivity. In fact, the results indicate that ICT strategies and technology affect the performance of supply chain management. The use of communication technology and information management resources facilitates information and delays, which not only reduces costs but also increases customer satisfaction; thus, the overall competitiveness of the organization Strengthens.

Yang Huang and Chang Yong (2011), based on theoretical studies as well as expert opinion, provided a comprehensive definition of IT projects, then determined the scope and risk factors for IT projects. At the end, they introduced a framework for risk management of information technology projects. Feng and Lee (2010) relied on the security risks of IT projects to evaluate IT projects. In his view, moving away from uncertainty is the most influential factor in the success of the risk assessment of the IT project. Baly (2010) evaluated the relationship between expected volatility and expected returns in the portfolio portfolio selected by the New York Stock Exchange, using GARCH model estimates of conditional variance (risk), then the case The contract test, to which extent the conditional covariance predicts the expected basket performance. The result of the study indicated that the estimated covariance predicted by the GARCH model predicts the expected returns of the basket. Doosti et al. (2015), in a paper titled "The Study of the Relationship between Reducing Routing and Information Technology in Companies Accepted in the Securities Market", states: There is a significant relationship between the use of information technology in monitoring and reduction of roaming behavior. There is also a significant relationship between the use of information technology in monitoring and reducing the risk of non-disclosure of risk mitigation, the inherent risk reduction and risk reduction of control.

Nick Ghadam Hojjati and Jalilvand (2015) in an article entitled "Application of information security management system in reducing the risk of outsourcing of IT projects" states: The implementation of the information security management system is a strategy that uses policies, Controls and security settings appropriate to the organization protect the confidential information and intellectual property of the organization, personal information and customer data. Rabiei and Fathi (2015) in a paper titled "Identifying and ranking the IT outsourcing risks using fuzzy multicriteria decision-making" states: The Different Risks of Outsourcing Information Technology in Ghazvin Telecommunications Company, which in fact estimates these risks can help managers to make appropriate decisions to manage these risks. Shams and Sadeghi (2014) calculated the value-at-risk value of the Tehran Stock Exchange financial institutions. In this research, commonly used parametric and parametric methods for calculating value-at-risk values were introduced. Then, a very different parametric method called Cornish-Fisher was investigated from the normal distribution of the financial industry of the Tehran Stock Exchange including investment, insurance, leasing and banks in the years 2010-2012. Only 15 of the companies mentioned There was little difference with normal distribution. The dominant distribution in Iran's Bourt Company's financial institutions is not normal distribution. The findings of this study suggest that this turbidity works well for observations whose distribution is slightly different from normal distribution, and there is a significant difference between the calculation of risk value from both the normal and the Kornish-Fisher methods.

Foakeh (2013) explains in a paper entitled "The Effect of Risk Coverage Strategies on the Capital Market and its Impact on the Inclination to Invest (Case Study: Fars Exchange Market)": Investors can not logically Expect high returns without high risk. On the other hand, research has shown that individuals do not act reasonably and rationally in their decision-making under risk conditions. The results of the research showed that risk and its dimensions (initial risk, secondary risk, and non-financial risk) have a significant effect on the willingness to invest.

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3. Methodology

3.1 Descriptive Statistics

- **Age range**

The age range of respondents is shown in the table below:

Table 1. Distribution of respondents by age

Age	Frequency	Percent	Cumulative Frequency
<30	11	7.9	7.9
31-40	27	19.3	27.1
41-50	73	52.1	79.3
50<	29	20.7	100
Total	140	100	

As shown in Table 1, 7.9% of respondents are less than 30 years old, 19.3% of respondents between 31 and 40 years old, 52.1% of respondents aged 41 to 50, 20.7% more They are 50 years old.

- **Marital status**

The status quo of the respondents is shown in the table below:

Table 2. Distribution of respondents according to marital status

Marital status	Frequency	Percent	Cumulative Frequency
Married	125	89.3	89.3
Single	15	10.7	100
Total	140	100	

As shown in Table 2, 89.3% of the respondents are married and 10.7% are single.

- **Academic status**

The academic status of respondents is shown in the table below:

Table 3. Distribution frequency of respondents according to academic status

Academic status	Frequency	Percent	Cumulative Frequency
Bachelor	48	34.3	34.3
Master's degree	78	55.7	90
P.H.D	100	10	100
Total	140	100	

As shown in Table 3, 34.3% had a bachelor's degree, 55.7% had a master's degree, and 10% had a doctorate.

3.2 Statistical analysis and hypothesis testing

After describing the variables and the responses obtained from the statistical community in this section, research hypotheses are analyzed using regression coefficient.

3.2.1 Descriptive Analysis

In Table 4, the mean and standard deviation of all the variables of the research are stated.

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Table 4. Frequency of respondents based on work experience

Variables	Number	Average	Standard deviation	Min	Max
Early Risk	98	3.71	0.512	2	5
Secondary Risk	98	3.58	0.468	2	5
Non-Financial Risk	98	3.75	0.479	2	5
Information Technology	98	3.81	.0410	2	5
Risk Management	98	3.68	0.397	2	5

Date: 02/20/17
Time: 01:37
Sample: 1 140

	FANAVARI	MODIRIYATE_RISK	RISK_AVALIYE	RISK_SANAVIYE	RISK_MALI
Mean	3.805458	3.678614	3.708929	3.579464	3.747449
Median	3.875000	3.736607	3.750000	3.562500	3.785714
Maximum	5.000000	4.732143	5.000000	4.875000	5.000000
Minimum	2.350000	2.392857	2.125000	2.000000	2.357143
Std. Dev.	0.409645	0.397366	0.512094	0.467638	0.479304
Skewness	-0.752813	-0.592008	-0.815020	0.129976	-0.555789
Kurtosis	1.152814	2.154324	3.267803	3.593215	3.125370
Jarque-Bera	1.245884	1.935041	2.187539	2.446963	2.205283
Probability	0.564324	0.432344	0.314544	0.294204	0.302240
Sum	532.7642	515.0060	519.2500	501.1250	524.6429
Sum Sq. Dev.	23.32542	21.94809	36.45134	30.39721	31.93276
Observations	140	140	140	140	140

Table 4 presents descriptive statistics for the research variables. The above table shows that the average of IT and risk management is above average (grade 3), which means that these two variables are in a good position. Meanwhile, IT has a higher average (3.81) of risk management (3.68).

3.2.2 Inferential Analysis

- Kolmogorov-Smirnov test to check the normal variables (k-s)

To use statistical techniques, it must first be determined that the collected data have normal distribution or abnormal. Because if the distribution of data is normal, the data collected for testing the hypotheses can be used as a parametric test, and in the case of non-normality, nonparametric tests. To this end, we examine the results of the Kolmogorov-Smirnov test on the variables studied and choose the appropriate tests based on the results. The results are presented in Table 5:

Table 5. The result of the test is the normality of the research variables

Factor	Meaningful level	Error value	Confirmation of hypothesis	Conclusion
Information Technology	0.108	0.05	H_0	Normal
Risk management	0.249	0.05	H_0	Normal

According to the above table, since the level of significance for the two main components is larger than the error value of 0.05, these variables have a normal distribution.

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- Stationary of research variables

In new econometric studies, it is necessary to examine the variables of the stationary before estimating the model. One variable when the mean of the variance and its correlation coefficients remain constant over time.
In general, if the time source of a stationary changes, and the mean and variance and covariance does not change, then the variable is unmatched and otherwise the variable will be invariant. Assumptions about the stationary of the variables are as follows:

H_0: The variable is not stationary
H_1 :The variable is stationary

Stationary of variables can be investigated in three modes: "level", "first difference" and "second difference". Variables that have a probability of testing "at the level" of less than 5%, the zero hypothesis is rejected, and that variable is at its stationary level; if it is more than 5%, it is not stationary.

The results of the stationary test in the following tables are based on the output of the Eviews software for the variables. test in the following tables are based on the output of the Eviews software for the variables.

Null Hypothesis: FANAVARI has a unit root				
Exogenous: Constant				
Lag Length: 1 (Automatic - based on SIC, maxlag=13)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-6.288440	0.0000
Test critical values:	1% level		-3.478189	
	5% level		-2.882433	
	10% level		-2.577990	
*MacKinnon (1996) one-sided p-values.				

Null Hypothesis: MODIRIYATE_RISK has a unit root				
Exogenous: Constant				
Lag Length: 1 (Automatic - based on SIC, maxlag=13)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-5.758985	0.0000
Test critical values:	1% level		-3.478189	
	5% level		-2.882433	
	10% level		-2.577990	
*MacKinnon (1996) one-sided p-values.				

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Null Hypothesis: RISK_AVALIYE has a unit root			
Exogenous: Constant			
Lag Length: 1 (Automatic - based on SIC, maxlag=13)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.280430	0.0000
Test critical values:	1% level	-3.478189	
	5% level	-2.882433	
	10% level	-2.577990	
*MacKinnon (1996) one-sided p-values.			

Null Hypothesis: RISK_SANAVIYE has a unit root			
Exogenous: Constant			
Lag Length: 1 (Automatic - based on SIC, maxlag=13)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.498662	0.0000
Test critical values:	1% level	-3.478189	
	5% level	-2.882433	
	10% level	-2.577990	
*MacKinnon (1996) one-sided p-values.			

Null Hypothesis: RISK_MALI has a unit root			
Exogenous: Constant			
Lag Length: 1 (Automatic - based on SIC, maxlag=13)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.548889	0.0000
Test critical values:	1% level	-3.478189	
	5% level	-2.882433	
	10% level	-2.577990	
*MacKinnon (1996) one-sided p-values.			

The result of the stationary test shows that all variables are static (stationary) at the stable level.

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- Root test (static) of the variables group

Group unit root test: Summary
Series: FANAVARI, MODIRIYATE_RISK, RISK_AVALIYE, RISK_SANAVIYE, RISK_MALI
Date: 02/20/17 Time: 01:40
Sample: 1 140
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-12.6466	0.0000	5	690
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-11.7747	0.0000	5	690
ADF - Fisher Chi-square	146.807	0.0000	5	690
PP - Fisher Chi-square	370.464	0.0000	5	695

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

The result of the stationary test shows that all variables are static (stationary) at the stable level.

- Survey correlation coefficients of research variables

The severity of the dependence of the two variables defines one another as a correlation. Generally, the correlation coefficients vary between 1 and 1, and the relationship between the two variables can be positive or negative. The correlation coefficient is a symmetric relationship, whatever the closer the correlation coefficient is to one, the greater the dependence of the two variables. This dependence does not mean the cause and effect relationship, and the correlation coefficient does not reveal which cause and cause is affected. The correlation test examines the relationship between variables and according to the results, it can be said that there is a relationship between the variables and a more precise examination of these relationships can be made. For example, the results obtained from the correlation coefficient table show that there is a direct relation between (Fanavari) and (modiriyate-risk) 87%, and there is significant statistical significance. Also, there is a positive correlation between (Fanavari) and (risk-mali) 84% and statistically significant.

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Covariance Analysis: Ordinary
Date: 02/20/17 Time: 01:38
Sample: 1 140
Included observations: 140

Covariance
Correlation
t-Statistic
Probability

	FANAVARI	MODIRIYATE_RISK	RISK_AVALIYE	RISK_SANAVIYE	RISK_MALI
FANAVARI	0.166610				
	1.000000				

MODIRIYATE_RISK	0.140693	0.156772			
	0.870539	1.000000			
	20.78140	-----			
	0.0000	-----			
RISK_AVALIYE	0.167051	0.177625	0.260367		
	0.802057	0.879176	1.000000		
	15.77578	21.67479	-----		
	0.0000	0.0000	-----		
RISK_SANAVIYE	0.091393	0.132870	0.101311	0.217123	
	0.480516	0.720179	0.426098	1.000000	
	6.436574	12.19419	5.532930	-----	
	0.0000	0.0000	0.0000	-----	
RISK_MALI	0.163636	0.159822	0.171196	0.080177	0.228091
	0.839411	0.845175	0.702502	0.360283	1.000000
	18.14329	18.57578	11.59580	4.537063	-----
	0.0000	0.0000	0.0000	0.0000	-----

3.3 Test of research hypotheses

3.3.1 Test of first hypothesis:

After verifying the structure of the research structures, structural equation modeling has been used to study the relationships between the variables.

Regression test was used to investigate the effect of information technology on risk management in capital markets. The hypothesis is as follows:

Information technology affects risk management in the capital market of companies accepted in Tehran Stock Exchange.

$$\text{mod}\,iriyat - risk_t = \beta_0 + \beta_1 fana\,\text{var}\,i_t + \varepsilon_t \quad (1)$$

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The results of regression are summarized in Table 6:

Dependent Variable: MODIRIYATE_RISK				
Method: Least Squares				
Date: 02/20/17 Time: 01:47				
Sample: 1 140				
Included observations: 140				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FANAVARI	0.844446	0.040635	20.78140	0.0000
C	0.465110	0.155521	2.990664	0.0033
R-squared	0.757838	Mean dependent var		3.678614
Adjusted R-squared	0.756083	S.D. dependent var		0.397366
S.E. of regression	0.196251	Akaike info criterion		-0.404662
Sum squared resid	5.314993	Schwarz criterion		-0.362639
Log likelihood	30.32635	Hannan-Quinn criter.		-0.387585
F-statistic	431.8666	Durbin-Watson stat		1.231963
Prob(F-statistic)	0.000000			

Heteroskedasticity Test: ARCH			
F-statistic	0.452364	Prob. F(1,137)	0.5023
Obs*R-squared	0.457458	Prob. Chi-Square(1)	0.4988

Table 6. Results of Information Technology Regression Analysis in Risk Management in the Capital Market

Criterion variable	Predictive variable	Correlation MR	The coefficient of determination RS	Ratio F Possibility P	The regression coefficient
Information Technology	**Risk Management**	0.844	0.758	F=431.867 P=0.00	β=0.844 t=20.781 p=0.00

The results of the regression model analysis of the relationship between the two variables are presented in Table 6. The standard beta coefficient between the two variables of information technology and risk management is 0.844. The value of t statistic is also 20.781, which indicates that the observed correlation is significant; therefore, with 95% confidence, IT management has a direct impact on risk management. On the other hand, the beta coefficient of the standard between the two variables is total quality management and financial performance of 30%; therefore, with 95% confidence, comprehensive quality management has a direct effect on financial performance.

3.3.2 Test of second hypothesis:

Regression test was used to investigate the impact of information technology on the market primitive risk. The hypothesis is as follows:

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Information technology affects the primary market risk of the listed companies in the Tehran Stock Exchange.

$$risk - avaliye_t = \beta_0 + \beta_1 fanavari_t + \varepsilon_t \quad (2)$$

Test results The hypothesis of the study is described in Table 7.

Dependent Variable: RISK_AVALIYE
Method: Least Squares
Date: 02/20/17 Time: 01:56
Sample: 1 140
Included observations: 140

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FANAVARI	1.002646	0.063556	15.77578	0.0000
C	-0.106597	0.243247	-0.438227	0.6619

R-squared	0.643296	Mean dependent var	3.708929
Adjusted R-squared	0.640711	S.D. dependent var	0.512094
S.E. of regression	0.306953	Akaike info criterion	0.489935
Sum squared resid	13.00234	Schwarz criterion	0.531959
Log likelihood	-32.29547	Hannan-Quinn criter.	0.507012
F-statistic	248.8754	Durbin-Watson stat	1.855177
Prob(F-statistic)	0.000000		

Heteroskedasticity Test: ARCH

F-statistic	0.315292	Prob. F(1,137)	0.5754
Obs*R-squared	0.319160	Prob. Chi-Square(1)	0.5721

Table 7. Results of Information Technology Regression Analysis on Primary Market Risk

Criterion variable	Predictive variable	Correlation MR	The coefficient of determination RS	Ratio F Possibility P	The regression coefficient
Information Technology	**Primary market risk**	1.002	0.643	F=248.875 P=0.00	β=1.002 t=15.776 p=0.00

The results show that the standard beta coefficient between the two IT variables was obtained on the initial market risk of 1.002. The value of t statistic was also 15.776, which indicates that the correlation observed is significant; therefore, with 95% confidence, information technology has a direct impact on the initial market risk.

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3.3.3 Test of third hypothesis:

Regression test was used to investigate the impact of information technology on the market risk. The hypothesis is as follows:

Information technology affects the risk of the secondary market of listed companies in Tehran Stock Exchange.

$$risk - savaviye_{t} = \beta_0 + \beta_1 fanavari_{t} + \varepsilon_t \quad (3)$$

Test results The hypothesis of the survey is described in Table 8.

Dependent Variable: RISK_SANAVIYE				
Method: Least Squares				
Date: 02/20/17 Time: 02:00				
Sample: 1 140				
Included observations: 140				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FANAVARI	0.548542	0.085223	6.436574	0.0000
C	1.492010	0.326172	4.574310	0.0000
R-squared	0.230896	Mean dependent var		3.579464
Adjusted R-squared	0.225322	S.D. dependent var		0.467638
S.E. of regression	0.411595	Akaike info criterion		1.076628
Sum squared resid	23.37863	Schwarz criterion		1.118652
Log likelihood	-73.36398	Hannan-Quinn criter.		1.093705
F-statistic	41.42948	Durbin-Watson stat		1.314111
Prob(F-statistic)	0.000000			

Heteroskedasticity Test: ARCH			
F-statistic	0.122636	Prob. F(1,137)	0.7267
Obs*R-squared	0.124315	Prob. Chi-Square(1)	0.7244

Table 8. Results of Information Technology Regression Analysis on Primary Market Risk

Criterion variable	Predictive variable	Correlation MR	The coefficient of determination RS	Ratio F Possibility P	The regression coefficient
Information Technology	**Secondary Market Risk**	0.548	0.231	F=41.429 P=0.00	β=0.548 t=6.437 p=0.00

The regression equation with F = 41.429 and the significance level of 0.00, which is smaller than 0.05, is significant; therefore, it is assumed that there is a linear relationship between the variables of the research.

The results of regression analysis using step-by-step method show that the regression coefficient for secondary market risk is β = 0.548 and the significance test statistic of the regression coefficient was t = 6.4377, and its

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significance level is 0/00 which is less than and 0.05. Therefore, with 95% accuracy, information technology has a direct impact on the secondary market risk.

3.3.4 Test of fourth hypothesis:

Regression test was used to investigate the effect of information technology on non-financial risk. The hypothesis is as follows:

Information technology affects the non-financial risk of accepted companies in Tehran Stock Exchange.

$$risk - mali_t = \beta_0 + \beta_i fana\,\mathrm{var}\,i_t + \varepsilon_t \quad (4)$$

The test results of the test hypothesis are described in Table 9.

Dependent Variable: RISK_MALI				
Method: Least Squares				
Date: 02/20/17 Time: 02:03				
Sample: 1 140				
Included observations: 140				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FANAVARI	0.982150	0.054133	18.14329	0.0000
C	0.009917	0.207182	0.047866	0.9619
R-squared	0.704610	Mean dependent var		3.747449
Adjusted R-squared	0.702470	S.D. dependent var		0.479304
S.E. of regression	0.261443	Akaike info criterion		0.168980
Sum squared resid	9.432616	Schwarz criterion		0.211003
Log likelihood	-9.828569	Hannan-Quinn criter.		0.186057
F-statistic	329.1791	Durbin-Watson stat		2.140403
Prob(F-statistic)	0.000000			

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.723673	Prob. F(2,136)	0.1823
Obs*R-squared	3.461008	Prob. Chi-Square(2)	0.1772

Heteroskedasticity Test: White			
F-statistic	1.967316	Prob. F(2,137)	0.1438
Obs*R-squared	3.908538	Prob. Chi-Square(2)	0.1417
Scaled explained SS	5.753862	Prob. Chi-Square(2)	0.0563

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Table 9. Results of Information Technology Regression Analysis on Non-financial Risk

Criterion Variable	Predictive Variable	Correlation MR	Coefficient of Determination RS	Ratio F Possibility P	Regression Coefficient
Information Technology	**Non-financial risk**	0.982	0.705	F=329.179 P=0.00	β=0.982 t=18.143 p=0.00

The regression equation is significant with F = 31.48 and the significance level of 0.03, which is smaller than 0.05, so it is assumed that there is a linear relationship between the research variables.
The results of regression analysis using step-by-step method show that the regression coefficient for non-financial risk is β = 0.982 and the significance test statistic of t-test = 18.143 for the regression coefficient and its significance level is 0.00, which is less than and 0.05; Therefore, with 95% confidence, information technology has a direct impact on non-financial risk.

3.4 The effect of demographic characteristics on research variables

In the following, we examine each of the demographic variables on the research variables:

- **Marital Status**

To evaluate the impact of information technology on risk management with their marital status, independent t test is used, the results are presented in Table 10.

Table 10. Independent t-test results in terms of marital status

Variable	Marital status	Average	Standard Deviation	T	Sig
Information Technology	Single	111.3	16.652	2.33	0.06
	Married	194.7	14.781		
Risk Management	Single	185.2	14.391	2.91	0.08
	Married	123.7	13.207		

In the table above, the results of independent t-test show that there is no significant difference between the information technology and risk management (95% confidence level) ($p < 0.05$); in other words, the impact of information technology and risk management among the single and married respondents is the same.

- **Education**

To evaluate the impact of information technology on risk management with their education, independent t test is used, the results are presented in Table 11.

Table 11. Independent t-test results in terms of educational qualification

Variable	Education	Sum of squares	Average squares	F	Sig
Information Technology	In group	74.562	34.378	0.380	0.66
	Inter group	502.922	625.364		
Risk Management	In group	364.631	67.456	0.341	0.40
	Inter group	527.128	710.940		

The results of the above table indicate that the impact of information technology on risk management based on education level with F = 0.380 and F = 0.341 does not show significant difference at 95% confidence level; therefore, between the impact of information technology There is no significant difference in risk management according to their degree.

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- **Age**

To evaluate the impact of information technology on risk management with their education, independent t test is used, the results are presented in Table 12.

Table 12. Independent t-test results in terms of age

Variable	Age	Sum of squares	Average squares	F	Sig
Information Technology	In group	60.520	37.378	0.412	0.33
	Inter group	570.243	325.364		
Risk Management	In group	63.380	44.396	0.252	0.30
	Inter group	507.637	258.331		

The results presented in the table above indicate that the impact of information technology on risk management based on age (F = 0.412 and F = 0.252) does not show significant difference at 95% confidence level; therefore, the impact of information technology on Risk management is not significantly different from their age.

4. Conclusion

According to the first hypothesis, it can be concluded that information technology affects risk management in the capital market of companies accepted in Tehran Stock Exchange. Information technology has a role to play in the realization of the goals of every business. And, of course, the issue of risk management requires internal control by information technology. The focus on information technology and risk management in the Stock Exchange is because it is safe to say that the role of risk management empowerment in this area has become very important in recent years. Today, risk management is vital for the continued operation of financial institutions in the capital market. Risk management is very important and highly recommended in Islam. The result of this study is consistent with researchers such as Hobijn and Jovanovic (2011).

According to the second hypothesis, it can be concluded that information technology affects the market risk of the companies accepted in Tehran Stock Exchange. The result of this study is consistent with researchers such as Ahmadpour Kasegari (2014). Because most investments in the stock market occur in the secondary market, and only stock exchanges are traded on this market, ie the ownership of shares is transferred from one person to another, and equity holders are also due to an increase in the stock price or the profit of that unit The annual production is benefited, so this does not necessarily reduce the people's referrals to the banks for investment; therefore, this money will not necessarily come to the hands of the investor unless it comes into the initial market, in which case Can be a good solution It is a strengthening of the capital market, and our values are consistent, but must be limited to the primary market, and in this market either the production unit must increase its capital and expand its activities, or there should be a new unit that will set up the stock in accordance with the provisions in there is a capital market to sell.

According to the third hypothesis, it can be concluded that information technology affects the risk of the secondary market of companies accepted in Tehran Stock Exchange. The result of this study is consistent with (2013). As the primary market should be active in order to be able to play a role in long-term financing of stock markets, the secondary market should also flourish, as the government program, the liberalization of equity shares, and the ability to trade shares in the stock exchange, and the success of this program, Capital market prosperity, especially the secondary market, is why the prosperity of both primary and secondary markets is considered by the government as complementary markets for each other.

According to the fourth hypothesis, it can be concluded that information technology affects the non-financial risk of accepted companies in Tehran Stock Exchange, which is consistent with the results of Mirzaee et al. (2011) and Van Horne (2008). In turbulent environments where organizations face threats to survival, risk-based approaches can be very effective in many cases. Therefore, to provide a comprehensive strategy for managing large organizations, we need to develop frameworks and models for non-financial risk indicators at macro and strategic levels, and with an integrated, cross-sectoral approach.

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