

Review Reliability for Value of Intangible Assets in Financial Statements

Iman Zare¹, Jafar Nekounam² and Ali Gerami³

^{1,*}Department of Accounting, khomein Branch, Islamic Azad University, khomein, Iran

² Department of Accounting, khomein Branch, Islamic Azad University, khomein, Iran

³ Department of Accounting, Mobarakeh Branch, Islamic Azad University, Mobarakeh, Isfahan, Iran

ABSTRACT

Intangible assets are among reported items in financial statements under title of fixed assets, which they have different nature from other assets or other items of financial statements. Reliability is the most important qualitative characteristic of accounting information. In this research, we study reliability of reported values of intangible assets in financial statements.

To do this research, a sample including 108 member companies in Tehran Stock Exchange for 7 years (2004-2011) was selected and studied. Also, to study reliability of intangible assets of reported items in financial statements, correlation of this factor with market value of companies was studied by regression. After fulfillment of this research and confirmation of research Hypothesis, it was found that there is a positive and significant relation between reported value of intangible assets as independent variable, and Reliability of information as dependent variable.

Keywords: reported value, Intangible assets, reliability.

1. INTRODUCTION

From the view of accounting information, the main goal of providing and submission of financial statements is succoring users of that information. Also, accounting information has special qualitative characteristic, among which there are reliability and relevance [6]. Among the most important and controversial accounting items are intangible assets [21]. Despite of definition of intangible assets, what was important in this research was study of reported values of reliability and relevance in financial statements [18].

If accounting items have two characteristic of reliability and relevance, they should be used for decision-making and affect on market values of a company [22]. Necessarily, correlation of reliability and relevance with market value must be measured to study their effects on financial statements [8].

Also, what was important and the basis of formation of this study was study of existence of reliability in financial statements [9].

This research helps users of accounting information by studying existence of information quality in reported values of intangible assets.

Intangible asset is a non-monetary asset without an objective nature that:

- a) is reserved to be used for production, supply of goods or services, renting, or administrative purposes by a commercial unit;
- b) is obtained intending to be used for more than one financial period;
- c) is identifiable [13].

Regarding the importance of this subject, this research studies relationship between reported items of intangible assets with Reliability.

2. Research history

Saeidi & Ghaderi (2007) in a research titled "study of relevance of accounting profit, book value, operational cash flow, and investment in price-based evaluation models" studied anticipating power of book value, net profit, operational cash flow, and investment as representative of accounting information to evaluate market values of companies. Their findings shows that book value and accounting profit are more relevant, and inclusion of operational cash flow and investment will not increase descriptive power of models significantly [3]. Bayazidi & Jabbarzadeh Kangarluyi (2009) fulfilled a research titled "study and compare of descriptive power of economical added-value, residual income, and abnormal growth of profit to determine value of stocks market of

***Corresponding author:** Iman Zare, Department of Accounting, khomein Branch, Islamic Azad University, khomein, Iran,
E-mail: iman.accounting@yahoo.com

companies accepted in Tehran Stock Exchange". Residual income evaluation model knows a company's market value a function of profit, and book value of rights of stockholders in global accounting and abnormal profit growth knows market value a function of abnormal profit in each period. Meanwhile, added-value model calculated a company's value upon net operational profit after deduction of financial supply costs (through debt or rights of stockholders). In this research, 115 companies accepted in Tehran Stock Exchange were studied for 2003-2007 period. Integrative data was used to test Hypothesis . The results show that there is no significant difference between descriptive power of these models to determine values of companies [2]. Nearly, in all cases, residual income evaluation model has higher descriptive power than economical added-value model, and economical added-value model has higher descriptive power than abnormal profit growth to determine companies values [4].

Holthausena & Watts (2009) in a research titled "Relationship between value and reliability of intangible assets before and after IFRS" studied reported values of intangible assets before and after IFRS in 2001-2008 in Australian companies. They found that reported values of intangible assets of many companies were changed after approval of accounting standards. Also, reliability of intangible assets had a significant effect on reported values [16].

Thompson and Dennis (2003) fulfilled a research titled "evidences about relevance of promissory items with cash flows: deprivation". To find evidences to confirm this subject, they compared interpretation power of calculated profit according to promissory accounting of properties, machinery, and equipments, and calculated profit according cash accounting of properties, machinery, and equipments to know which one could interpret future profits of a large set of productive companies. They found that calculated profit can describe less portion of deviations of stocks price by deposition of investment costs to the account of period cost, and descriptive power of calculated profit is more in deprivation method [17]. This is also true for those companies that use a yearly regular pattern for their investment costs [7].

Karami & Omrani (2010) in a research titled "Effects of company's life cycle on relevance of risk and performance" studied effects of life cycle on relevance of risk and performance. In this research, stock return was dependent variable, and risk and performance were descriptive variables. At first, the statistical sample was separated to growing, mature, and waning companies using sale growth variables. Then the Hypothesis were investigated by multi-variable regression equations and statistical test. The results of study of 518 companies from 2001 to 2007 showed that relevance of risk and performance criteria and also descriptive power of risk criteria in different stages of life cycle (growth, mature, waning) have significant differences. The results of Woung's statistical test showed that progressive descriptive power of risk criteria in growth stage is much and in mature stage is less [5].

3.Hypothesis of research

3.1.Main Hypothesis

There is a direct relation between reported values of intangible assets with reliability of accounting information.

3.2.Sub-main Hypothesis

1. There is a direct relation between reported values of intangible assets and a company's market value.

4.Statistical society and sample

Because of quality and accessibility of information of companies accepted in Tehran Stock Exchange, these companies are the statistical society of this research. Also, size of the sample is enough large to have a precise statistical deduction.

The selected companies were selected by the following conditions for the 5 years period (early of fiscal year of 2004-end of fiscal year of 2011):

1. The company was a member of Tehran Stock Exchange before 2004.
2. The company has submitted its financial statements to Bourse for the period.
3. The company had no interruption more than 6 months in its transactions.
4. The company's financial statements were ended to March 20.
5. The company has not changed its fiscal year.

The sampling method was a "complete" one including all members of the statistical society, unless those companies with either inaccessible information or impossible calculation of variables. Therefore, all companies member of Tehran Stock Exchange were selected as the statistical society. After examination of their financial statements, 108 companies were finally selected for the sample of research.

5. RESEARCH METHOD

The method of this research is inductive and post-event (using past data), and sectional correlation, that is study of relations between variables by regression.

5.1. Variables of research

The variables are market value as dependent variable, and reported amount of intangible assets as independent variables. Other variables such as movements, financial levers, industry type, and inflation rate were considered and control variables in this research.

5.2. Statistical method of research

5.2.1. Kulmogruv-Smirnov Normality Test

Kulmogruv-Smirnov Test is used to test normality. If probability of this test is greater than 0.05, then we can confirm normality of remainders by 95%.

Table 1: Normality test

		Market value	Intangible assets
Normal parameters	Data number	108	108
	Average	8852219.49	10297.36
	Standard deviation	5540312.558	3320.434
Deviations	Absolute	0.087	0.053
	Positive	0.087	0.053
	Negative	-0.071	-0.047
	Significance level of K-S Test	0.818	0.500
	Bilateral significance level	0.515	0.964

Regarding to the significance level (0.96, 0.51), the research variables are normal.

5.2.2. Regression model

Regression model is used to test Hypothesis. In regression, we seek an arithmetic relation to find the relationship between variables. In this model, we assume the dependent variable (market value) is a function of independent variables (reported values of intangible assets). If there is a linear relation between the dependent variable and the independent variable, then it is expected the observed changes in the dependent variable are described by the independent variable. Otherwise, we conclude that there is no linear relation between dependent and independent variables [1].

F statistic of regression: In spite of t statistic, F statistic examines significance of the estimated coefficients. Naturally, the more the F statistic, the more descriptive the model.

Mean Square Error (MSE): Since irregular changes in the time series indicated undefined and unpredictable vibrations in data, therefore we should expect errors in our anticipation. There are many indices to determine anticipation error. The most important index is Mean Square Error (MSE), which is obtained by division of squares of errors by freedom degree. Naturally, the less the index, the more the descriptive power [20].

1. Examination of correlation coefficient between dependent and independent variables and study of significance level of coefficients[19].

In this step, we calculate Pierson Correlation Coefficient between dependent and independent variables. By the sign of correlation coefficient, we indicate the kind of relation (direct or reverse). Also, significance level is indicated by its probability value, which a value less than 0.05 indicated a significant relation.

2. Examination of type and severity of relation by dispersion charts

In this step, we draw dispersion charts between dependent and independent variables. If the pile of observations is around the first-third bisector, we conclude a direct relation. If the pile of observations is around the second-fourth bisector, we conclude a reverse relation. In addition, the coefficient to determine the simple regression line indicates percentage of changes of dependent variables by which independent variable can be described.

To test the research Hypothesis, we examine the linear regression.

Statistical model of sub-main Hypothesis

$$MV_{it} = \alpha + \beta (IIA_{it})$$

in which, $IIA_{it} = (IIA)^1$ reported intangible assets in financial statements of i-th company in fiscal period t. The dependent variable is market value, which is obtained from number of current stocks of company multiplied

1. Identifiable Intangible Assets

by the price of each stock 10 days after legal 4-month opportunity to close accounts and constitution of meeting. In this research, regression model is used to examine the relations between variables.

6. Description of statistical data

In the following table, we calculated central and dispersion indices for the research variables. Average is the most important central index, and deviation, skewness, and extension are the most important dispersion indices. Deviation indicated dispersion of data, skewness indicates symmetry of data, and extension indicated height of data.

Table 2: Descriptive statistics of dependent variable (in Rials)

Dependent variable	Market value
Number of observations	108
Average	8,852,219.4
Median	8,391,549
Domain	23,853,319
Standard deviation	5,540,312.5
Skewness	0.358
Extension	-0.715

Regarding to the above table, we see that average, adjusted average, and median are nearly equal, and skewness is nearly zero. Thus, we say dependent variable, that is market values of sample companies, is distributed normally. However, skewness of the research variable is relatively high, and this indicates more extension of distribution of this variable than normal distribution.

Table 3: Descriptive statistics of independent variables

Dependent variable	Reported value of intangible asset
Number of observations	108
Average	10,297.36
Median	10,552.5
Domain	21,201
Standard deviation	3,320.43
Skewness	0.228
Extension	0.508

Similar to the dependent variable, we see the average, adjusted average, and median are nearly equal, and skewness is nearly zero for independent variables, too. Thus, we say independent variables are distributed normally. Skewness of the research variable is relatively high, and this indicates more extension of distribution of this variable than normal distribution.

In continue, we see value descriptions of the research variables.

Table 4: Frequency distribution of market value of company

Frequency	
31%	< 5,000
51%	5 001 to 15,000
18%	> 15,000

Table 5: Frequency distribution of reported value of intangible asset

Frequency	
3%	< 5,000
66%	5,001 to 12,000
31%	> 12,000

7. Test of Hypothesis and data analysis

Sub- Hypothesis: There is a direct relation between reported values of intangible assets and a company's market value.

$$H_0 : \rho_{(x, y)} = 0$$

$$H_1 : \rho_{(x, y)} \neq 0$$

in which, x is the independent variable (reported value of intangible assets) and y is the dependent variable (market value).

To examine significance level of this Hypothesis, we used linear single-variable regression. Probability value (significance level) is equal to 0.00. Since this is less than 0.05. It means coefficients of this regression model are significant and linear. So, a significant relation between the reported value of goodwill and market value is confirmed by 95% of confidence level.

Determination coefficient or R^2 is 0.448. This means nearly 45% of changes of the dependent variable (market value) are described by the independent variable (reported value of intangible assets).

Table 6: Results of SPSS test for the sub- Hypothesis

Durbin-Watson	Sig	F	R ²	Freedom degree	Confidence level	Result
1.813	0.00	69.728	0.448	1	95%	Confirmation of Hypothesis

Table 7: Analysis of sub- Hypothesis

	Non-standard coeff.		Standard coeff.	T	Sig.
	β	Error			
Fixed, intercept	2,644,790.5	1,445,873.568		-1.829	0.071
Intangible asset	1,116.500	133.708	0.669	8.350	0.000

If t is located in the rejection area, then Hypothesis zero is rejected. Since t for slope is equal to 8.350 and t for intercept is -1.829, which Hypothesis zero is rejected in both cases. Then the model is written as:

$$MV_{it} = 2,644,790 + 1,116 IIA_{it}$$

8. Conclusion

Regarding to acceptance of the sub-Hypothesis, we can suggest that there is a direct and significant relation between the reported items of intangible assets and market value of a company. In other words, there is a direct correlation between the reported values of intangible assets and market value of company as a criterion for relevance of this item in financial statements.

According to the results, we can conclude rightness of the main Hypothesis, that is, the reported values of intangible assets in accounting system are reliable. In other words, in the statistical society of this research, intangible assets items in financial statements are reliable. Thus, it can be suggested that accounting systems of Bourse can offer reliable information useful for decision-making by users.

REFERENCES

1. Iman Zare , (2011) ,Study of effectiveness models in optimal portfolio of shares, Middle East Journal of Scientific Research 10 (2),239-246.
2. Bayazidi, Anvar; Jabbarzadeh Kangarluyi, Saeid (2009), “*Securities Bourse Quarterly*”, year 2, no. 7.
3. Saeidi, M.; Ghaderi, Ahmad (2008), “*Accounting and audit studies*”, series 14, no. 50, winter 2008.
4. Ghanbari, A. (2003), “*Relationship between economical added-value and financial ratios in Tehran Stock Exchange*”, Thesis for master degree.
5. Karami, Gh.; Omrani, Hamidreza (2010), “*Journal of Financial Accounting Researches*”, year 2, no. 3, serial 5.
6. Standard Committee (2007), “*Accounting Standards of Iran*”, Audit Organization publication.
7. Moridipour, D; Musavi, Ahmad (2006), “*Evaluation of the relationship between ratio of market value to stocks book value and cash ratios*”, Thesis for master degree.
8. OHanifehzadeh Latif, 2011, Studying the Structure of Ownership and Efficiency of Insurance Companies in Iran, Middle-East Journal of Scientific Research 9 (5), 675-681.
9. Iman Zare , Mohsen Ojaghi AghjehKandi and Ghasem Ojaghi AghjehKandi (2012) , Qualitative Characteristic of Accounting Information in Reported Values of Goodwill and Intangible Assets (Case Study of the Stock Exchange of Iran), Middle East Journal of Scientific Research 11(1), 32-38.

10. Ding, Y.; Richard, J.; Stolowy, H. (2008), “Towards an understanding of the phases of goodwill accounting in four western capitalist countries: From stakeholder model to shareholder model”, *Accounting Organizations and Society*, 33 (7-8), 718-755.
11. Frankel, R.; Lee, C.M. (1998), “Accounting valuation, market expectation, and cross-sectional stock returns”, *Journal of Accounting & Economics* 25, 283–319.
12. Godfrey, J.; Koh, P. (2001), “The relevance to firm valuation of capitalizing intangible assets in total and by category”, *Australian Accounting Review*, 11 (2), 39-49.
13. Gu, F.; Wang, W. (2005), “Intangible assets, information complexity, and analysts’ earnings forecasts”, *Journal of Business Finance and Accounting*, 32 (9-10), 1673-1702.
14. Ke, F.Y.; Pham, T.; Fargher, N. (2004), “The relevance to firm valuation of capitalized research and development expenditures”, *Australian Accounting Review*, 14(3), 72-76.
15. Firas, N.; Dahmash, Robert; Durand, B.; Watson, John (2009), “The value relevance and reliability of reported goodwill and identifiable intangible assets”, *The British Accounting Review*, 41, 120-137.
16. Iman Zare and Ali Shahsavari, (2012), Ability of Accounting Information to Anticipate Risk, *American Journal of Scientific Research* , Issue 49 , 5-10.
17. Iman Zare , Mohsen Ojaghi Aghjehkandi and Ghasem Ojaghi Aghjehkandi, (2012), Study of Relationship between Reported Items of Intangible Assets and Market Value, *American Journal of Scientific Research* ,Issue 47, 41-47.
18. T. Shah, B. Ali, S.A.H. Shah and E. Ahmed,2011, Equilibrium in Economic Development: A Perspective of Social Capital, *World Applied Sciences Journal* 14 (12), 1823-1837.
19. Mohammad Lashkary and Behzad Hassannezhad Kashani,2011, The Impact of Monetary Variables on Economic Growth in Iran: A Monetarists’ Approach, *World Applied Sciences Journal* 15 (3), 449-456.
20. M.M. Seyed Esfahani, H. Mehrabadi and S. Ebrahimnejad,2011, A Model for Evaluating Risk in PERT Networks by Using Uniformly Direct Cuts in Fuzzy Environment, *Studies in Nonlinear Sciences* 2 (1),19-25.
21. Mahdi Salehi, Mohmoud Hematfar and Amin Heydari,2011, A Study of the Relationship Between Institutional Investors and Corporate Value: Empirical Evidence of Iran, *Middle-East Journal of Scientific Research* 8 (1), 72-76.
22. p.saeidy and s.a.kazemipour ,2011, effects of environmental risks,the company strategy and capital structure on performance of companies in the pharmaceutical industry in iran stock exchange, *World Applied Sciences Journal* 13 (4), 962-967.