

Mohammed, Zaroug Othman; Al-Ani, Mawih Kareem

Article

The effect of intangible assets, financial performance and financial policies on the firm value: Evidence from Omani industrial sector

Contemporary Economics

Provided in Cooperation with:

University of Finance and Management, Warsaw

Suggested Citation: Mohammed, Zaroug Othman; Al-Ani, Mawih Kareem (2020) : The effect of intangible assets, financial performance and financial policies on the firm value: Evidence from Omani industrial sector, Contemporary Economics, ISSN 2300-8814, University of Finance and Management in Warsaw, Faculty of Management and Finance, Warsaw, Vol. 14, Iss. 3, pp. 379-391, <https://doi.org/10.5709/ce.1897-9254.411>

This Version is available at:

<https://hdl.handle.net/10419/297535>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

Primary submission: 27.07.2017 | Final acceptance: 02.09.2019

The Effect of Intangible Assets, Financial Performance and Financial Policies on the Firm Value: Evidence from Omani Industrial Sector

Zaroug Othman Mohammed and Mawih Kareem Al Ani

ABSTRACT

The aim of this study is to empirically examine the effect of calculated intangible assets, financial performance and financial policy on the firm value of Omani industrial companies listed in the Muscat Securities Market from 2010 to 2014. The study tests our model on a sample of 46 industrial companies. Three groups of independent variables are used, namely, intangible assets, financial policy and financial performance. Dependent variables are measured by using Tobin's Q ratio, and intangible assets are measured by using excess returns. In addition, financial policy is measured by debt and dividend policies, and financial performance is measured by profitability, liquidity and assets turnover. Results of the research provide empirical evidence from this emerging economy that intangible assets, financial policies and financial performance have a significant influence on firm value.

KEY WORDS:

calculated intangible assets, assets turnover, return on assets, dividends, debts, Tobin Q, Oman

JEL Classification: E22, L25, F65.

Dhofar University, Oman

1. Introduction and Theoretical Framework

Intangible assets, such as patents and computer programmes, are important for numerous enterprises in industrial and service sectors. Two types of intangible assets exist: the first includes assets that can be distinguished independently, such as copyright, and the second includes assets that cannot be distinguished from a firm, from each other or from other assets, such as sales staff skills and experience and administrative efficiency (Lopes & Rodrigues, 2007).

Social, technical, economic and political developments have made notable changes in the work environment of various types of businesses. A consistent marked increase in intangible assets has been witnessed. Intangible assets lack physical presence, and

their potential benefits are uncertain (Ibrahim & Ahmed, 2013). Appropriate intangible assets, which are considered as the roots of company value creation, help a company to achieve success (Garanina & Pavlova, 2011). Moreover, intangible assets are the major drivers of company growth and value in most economic sectors (Lev, 2001). Thus, intangible assets play an important role in determining company success (Garanina & Pavlova, 2011; Lev, 2001; Stewart, 1995; Titova, 2011). According to Petkov (2011) intangible assets played an important role in the success or failure of companies during the international financial crisis from 2007 to 2008. However, Petkov (2011) found that companies can benefit from intangible assets only after a couple of years.

Garanina and Pavlova (2011) discovered that intangible value has a positive relationship with the performance of a company. Most corporate financial theories agree that the main goal of firms is to maximise firm value or shareholders' value. Firm value is a mea-

Correspondence concerning this article should be addressed to: **Mawih Kareem Al Ani**, Accounting Department, Dhofar University, Salalah, Oman, 211, 0096823237405. E-mail: mawih@du.edu.om

sure of a firm's total value. Several measures can be used to measure firm value, book value, market value, capitalised value and deductive application of human judgment as well as net worth adjusted for intangibles and idiosyncrasies (Thavikulwat, 2004). In the present study, firm value is measured by Tobin's Q ratio, which measures management efficiency in utilising economic resources. If the value of this ratio is greater than 1, then a company's assets can be bought cheaper than the company itself, that is, a high market rate (overvaluation). If the Tobin's Q ratio is lower than 1, then the market rate is low (undervaluation) (Baker & Powell, 2005).

The dividend policy is one of the financial policies of a firm that is used to achieve efficient performance and objectives. The dividend policy refers to the pay-out policy that the management follows to determine the size and pattern of distributions to shareholders over time (Gul, Sajid, Razzaq, Iqbal & Khan, 2012).

A total of 47 industrial companies are listed in Oman's Muscat Securities Market (MSM) from 2010 to 2014. Numerous industrial companies in Oman have internally developed intangible assets, whereas other companies have calculated intangible assets. The main aim of the present research is to empirically examine the effect of calculated intangible assets, financial performance and financial policy on the firm value of Omani industrial companies listed in the MSM. The present study also attempts to fill the gap in the literature on Oman, the Gulf Cooperation Council (GCC) and the Middle East. The results of the study would be useful to managers and investors not only in Oman but also from regional and international perspectives. The paper is organised as follows: Section 1 presents the introduction and theoretical issues regarding intangible assets and other variables. Section 2 discusses and reviews the literature on theoretical and empirical studies. Section 3 illustrates the methodology used in the research. Section 4 explains the empirical findings. Finally, Section 5 presents the conclusions of the study.

2. Literature Review and Hypotheses

2.1. Firm Value Theory

Modigliani and Miller (M&M) (1958) conceptualised a theory on the capital structure and market value of a

firm and proposed that market value is determined by a firm's earning power and the risks of its underlying assets. In addition, the authors posited that a firm's value is independent from the way it chooses to finance its investments or distribute dividends. The M&M capital structure irrelevance proposition assumes no taxes or bankruptcy costs. The key M&M theorem is developed in a world without taxes; however, if taxes are present, then a company would owe less taxes. Therefore, companies with debts would be more valuable to investors than those without debts. Intangible assets are generally treated as expenses when incurred. Moreover, intangible assets generate noninterest tax shields (making interest tax shields redundant), thereby leading to low debts (Balakrishnan & Fox, 1993).

The main idea of firm value is value creation, which means that a firm should add value to its resources to sustain them. If a firm cannot create value, then its existence is purposeless (Kraaijenbrink & Spender, 2014). Thus, two important issues emerge. Firstly, the generation of profit is an extremely crucial issue for a firm because this profit reflects a company's efforts for sustainability. Secondly, firm value is an effective method to measure value creation and related profit. This measurement can be done by comparing the market value of total assets to its book value, which is the core of firm value.

2.2. Intangible Assets

Studies on intangible assets have been conducted for decades. Researchers, such as Lev (2001) and Garanina and Pavlova (2011), have analysed this topic from various perspectives. Most intangible assets are non-tradable. No organisations or markets can purchase or sell intangible assets (Widianoro, 2012). Moreover, intangible assets are far from a homogenous category of assets (Martins & Alves, 2010).

According to Blair and Wallman (2003), 'intangibles are non-physical factors that contribute to, or are used in, the production of goods or the provision of services or that are expected to generate future productive benefits to the individuals or firms that control their use' (p. 451).

Intangible assets are characterised by high risks, high uncertainty, firm-specificity, the absence of rivalry between uses and human capital intensity. Such

characteristics, as well as the nontradability of most intangible assets, distinguish them from other types of assets (Lev, 2001).

Several approaches can be used to calculate intangible assets. Alexandra and Mihaela (2014) listed a few main approaches, namely, those based on market values, those based on direct evaluation, those based on income and those based on scores. Stewart (1997 as cited by Aho, Stähle & Stähle, 2011) developed the calculated intangible value method to evaluate intangible assets, which is basically dependent on excess income. The basic logic of this method is 'that an investment in physical capital can only yield the average return prevailing in the industry; anything that exceeds the average yield is explained by the application of intellectual capital' (p. 4). This method consists of the following seven stages:

1. Calculate the company's average pre-tax earnings for the past series of years.
2. Calculate the company's average year-end tangible assets (except intangible assets) for the same series of years.
3. Find the return on assets (ROA) by dividing the results of Step 1 by the results of Step 2.
4. In the same way, calculate the industry average ROA for the same series of years.
5. Calculate the company's excess return by multiplying the industry average ROA (Step 4) by the company's tangible assets and then subtracting the excess return from the pre-tax earnings, that is, the company's excess return = Step 1 – {tangible assets * Step 2}.
6. Calculate the company's after-tax excess return by calculating the three-year average corporate tax rate and then subtracting the result from 1. Then, multiply the result by the company's excess return. The resultant equation is now in the form of the following: the company's after-tax excess return = {Step 1 – [tangible assets * Step 2]} * {1 – company's average tax percentage}.
7. Calculate the net present value of the after-tax excess return. Use the company's cost of capital as a suitable discounting factor, then divide the company's after-tax excess return by the company's cost of capital. The net present value of the after-tax excess return represents the intangible assets of the company (Aho et al., 2011).

The Stewart (1997) method is used in this study to calculate intangible assets. This method is used owing to the availability of the information required and to avoid any conflicts resulting from the use of the market and book values of assets, which are also used to measure the dependent variable (i.e. Tobin's Q) in this study.

2.3. *Intangible Assets and Financial Performance*

The effects of intangible assets and financial performance are widely revealed in the literature. Cost reduction is one of the important themes in traditional accounting, which may lead to a focus on strategies and an increase of a company's value by improving customers' equity leadership. (Blattberg, Getz & Thomas, 2002).

Research and development (R&D), as an intangible asset, is reflected in potential manufacturing cost reduction and product innovation, thereby consequently gaining high importance to firms in terms of technological changes (Love & Roper, 1999).

Li and Wang (2014) examined the influence of intangible assets (R&D expenditure) on the financial performance of listed information technology companies in Hong Kong by using ROA as a financial measure of the firms. The authors found out that R&D investment and sales training are beneficial to the firms' financial performance. Widiatoro (2012) examined the relationship between market value, dividend policy, solvency ratio, intangible value and company performance in Indonesia during the financial crisis of from 2006 to 2011. The results showed a significant relationship between the amount of intangible assets and the market value of a company.

Gamayuni (2015) empirically examined the relationship between intangible assets, financial policies and financial performance and the firm value of companies going public in Indonesia. The study concluded that intangible assets have a positive and significant effect on financial performance (in terms of ROA) and firm value. Mantoh (2015) investigated the contribution of intangible assets to value creation and the financial performance of firms in German public limited companies. The findings showed that intangible assets contribute positively to the profitability and productivity of the firms. Bubic and Susak

(2015) identified the relationship between investment in intangible assets, which is represented by intangible assets to the total assets ratio, and the financial performance of companies in Turkey that are represented by various financial ratios. The results showed a positive relationship between intangible assets and financial performance. Moeller (2009) analysed the relationship between intangible and tangible (i.e. financial) organisational performance in more than 100 German business networks. The results showed an interrelation between intangible and tangible/financial assets.

Finally, Battagello, Grimaldi and Cricelli (2016) introduced and tested a flexible qualitative/quantitative procedure to build strategic resources and value creation. The authors concluded that firm performance can be improved operationally and strategically by using such resources.

2.4. Intangible Assets and Financial Policy (Debt and Dividends Policies)

Gamayuni (2015) and Alves and Martins (2014) shed light on the effect of intangible assets on financial policy within a company. Numerous authors have revealed that investments in intangible assets have an effect on the debt and dividend policies of a company. Two theoretical arguments with differing opinions on the dividend policy are mentioned in the literature. One school of thought follows the opinion of Miller and Modigliani (1961) who argued that dividends should have no impact on firm value. By contrast, Gordon (1963) considered dividend policy as relevant and exerts influence on firm value. Vishnany and Shah (2008) concluded that information obtained from financial statements is relevant for investors in decision making and can explain the size of the stock market. Thus, ratios derived from financial statements have a significant relationship with stock market indicators. In contrast to the aforementioned views, Alves and Martins (2014) examined the impact of the level and the type of intangible assets on six major financial and governance policies by using two UK cross-sectional samples. The results showed that intangible assets (measured by three variables) have a significant negative impact on debt and dividend payout.

2.5. Intangible Assets and Firm Value

Lev (2001) conducted a comprehensive study on intan-

gible assets and their role in company value. The study elaborated that intangible assets play an important role as the major factor of the economic growth of companies. Lev stated that despite intangible assets playing an important role in company growth, most companies still record intangible expenses as factors in producing goods and combine them as the cost of goods sold. By contrast, numerous other companies do not consider intangible assets as a special expense. Garanina and Pavlova (2011) studied the association between intangible assets and firm value in a sample of companies in the UK and Russia. The authors' research found a positive correlation between the market value of equity and intangible assets. Lew (2015) revealed that intangible assets have a positive effect on the value of a firm. In addition, Swanson (2018) conducted an exploratory data analysis on currently unrecorded internal intangible firm values. The results showed that the measure of the internally generated intangible assets affects firm value.

2.6. Financial Performance and Firm Value

Several studies have been conducted to examine the effect of a company's financial performance on firm value. Sucuahi and Cambarihan (2016) analysed the relationship between profitability and firm value in the Philippine Stock Exchange. The findings of the study revealed that profitability has a significant positive impact on firm value. Vishnany and Shah (2008) found that financial ratios, as financial performance indicators derived from financial statements, have a significant relationship with the stock market. In addition, Pascareno (2016) examined the effect of financial performance on company value in 18 companies listed in the Indonesia Stock Exchange from 2010 to 2013. The results indicated that financial performance does not affect company value.

This literature review discusses the relationships and effects of intangible assets, financial policy and financial performance on firm value. Numerous authors have found either a significant positive or a negative effect of these variables. Limited research has been conducted in the Sultanate of Oman on the effects of intangible assets, financial performance and financial policy on firm value. Thus, the present research attempts to contribute to the literature by empirically examining the effects of the three variables. The following hypotheses are tested based on the literature review:

H1. Intangible assets, financial policies and financial performance have an effect on firm value.

H1.1. Intangible assets have an effect on firm value.

H1.2. Debt policy has an effect on firm value.

H1.3. Dividend policy has an effect on firm value.

H1.4. Financial performance has an effect on firm value.

3. Methodology, Variables and Sample

3.1. Model and Definition of Variables

The econometric model includes one equation and utilises Tobin's Q as the performance indicator. The equation is as follows:

$$TQ_{it} = \alpha + \beta_1 AT_{it} + \beta_2 CR_{it} + \beta_3 DIV_{it} + \beta_4 DE_{it} + \beta_5 ROA_{it} + \beta_6 IA_{it} + \epsilon_{it}$$

where TQ is Tobin's Q ratio, AT is assets turnover, CR is the current ratio, DIV is dividends, DE is debts, ROA is return on assets, IA is calculated intangible assets, α is the constant, β is the beta, ϵ is the error term, i is the firm and t is the period.

The study uses the following measures to define the variables of the equation (see Table 1).

The model is tested by using the correlation and pooled ordinary least squares (OLS) panel data regression. OLS is employed because the data for the study range from 2010 to 2014. The regression model is used to control all the variables and to observe their effect on the dependent variable. In addition, the variables are defined as follows:

Dependent variable: The dependent variable is Tobin's Q ratio, which is the ratio between the market value of equity compared with the book value of equity (Li & Wang, 2014).

Independent variables: The three groups of inde-

Table 1. Measurement of Variables

Variables	Measurement
Dependent variable	
TQ	Tobin's Q = market value of equity/ book value of equity
Independent variables	
IA	Excess returns (abnormal returns approach)
Financial performance indicators	
AT	Total assets/ sales
CR	Current assets/ current liabilities
ROA	Net income/ total assets
Financial Policy Indicators	
DE	Debt on equity ratio
DIV	Cash dividends (%)

pendent variables in this study are as follows:

Group 1: Intangible assets

We use calculated intangible assets, which are measured by the Stewart (1997) method. (Aho et al., 2011). We use the interest rate (6%) as the discount rate to calculate the net present value according to a bulletin issued by the Central Bank of Oman (Central Bank of Oman, 2018).

Group 2: Financial policy: This group consists of the debt policy. We use the leverage, which is measured by using the debt on equity ratio (Gamayuni, 2015).

Dividend policy: Dividend policy is the percentage of the cash dividends (Alves & Martins, 2014).

Group 3: Financial performance: This group includes:

Profitability ratio, which is measured by ROA;

Current ratio, which is calculated by dividing the current assets by the current liabilities;

Assets turnover, which is calculated by dividing the sales over the total assets (Gamayuni, 2015).

Table 2 summarises the definitions of each variable.

3.2. Data Collection and Sample Selection

The main objective of this research is to examine the relationship between intangible assets, financial performance and financial policy as independent variables and firm value as a dependent variable. The data are collected from 46 out of the 47 companies listed in the MSM. The information is taken from the MSM for the period of 2010 to 2014 as a pooled panel data analysis with 230 (46*5) observations.

The target population is all the industrial companies listed in the MSM of the Sultanate of Oman. A total of 47 companies in the industrial sector are listed in the MSM for the period included in this study. The study excludes one company because its financial statements are incomplete. The data of this study are collected from secondary sources. Accounting and market information are collected from the MSM database. In addition, this study is carried out by using a quantitative approach, with the aim to investigate the relationship between the financial performance, the intangible assets, the financial policy and the firm value of the companies surveyed. The study analyses the annual reports of

a sample of 46 out of 47 companies (98%) for the period of 2010 to 2014.

The annual reports for the sample are checked, and the values of all the variables are calculated for testing by using SPSS.

3.3. Data Collection and Sample Selection

The main objective of this research is to examine the relationship between intangible assets, financial performance and financial policy as independent variables and firm value as a dependent variable. The data are collected from 46 out of the 47 companies listed in the MSM. The information is taken from the MSM for the period of 2010 to 2014 as a pooled panel data analysis with 230 (46*5) observations.

The target population is all the industrial companies listed in the MSM of the Sultanate of Oman. A total of 47 companies in the industrial sector are listed in the MSM for the period included in this study. The study excludes one company because its financial statements are incomplete. The data of this study are collected from secondary sources. Accounting and market information are collected from the MSM database. In addition, this study is carried out by using a quantitative approach, with the aim to investigate the relationship between the financial performance, the intangible assets, the financial policy and the firm value of the companies surveyed. The study analyses the annual reports of a sample of 46 out of 47 companies (98%) for the period of 2010 to 2014.

The annual reports for the sample are checked, and the values of all the variables are calculated for testing by using SPSS.

4. Research Findings

Panel data are used in testing the hypotheses of the regression model. The panel data contain the annual firm level data in two dimensions, namely, individual (firm: $i = 1, \dots, N$, $N = 230$ observations) and time ($t = 1, \dots, T$, $T = 5$ years). Panel data offer more efficiency than a single time series or a cross-section series owing to the use of repeated observations of the same unit. They allow the specification and estimation of complicated and realistic models. The pooled OLS is an OLS method applied to panel

Table 2. Definition of Variables

Variables	Measurement	Reference
Dependent variable		
TQ	Ratio between the market value of equity compared with the book value of equity	(Li & Wang, 2014)
Independent variables		
Group 1: IA	Calculated intangible assets measured by using the Stewart (1997) method	(Aho et al., 2011)
Group 2: Financial performance indicators		
DE	Leverage measured by using the debt on equity ratio	(Gamayuni, 2015)
DIV	Percentage of cash dividends	(Alves & Martins, 2014)
Group 3: Financial policy indicators		
AT	Calculated by dividing the sales by the total assets	(Gamayuni, 2015)
CR	Calculated by dividing the current assets by the current liabilities	(Gamayuni, 2015)
ROA	Measured by ROA	(Gamayuni, 2015)

data. It assumes that all individuals are the same and ignores the differences among them (Mantoh, 2015). Additionally, the variance of the unobserved fixed effects is zero, and in this case, the pooled OLS might be the appropriate model.

4.1. Descriptive Statistics

Table 3 below provides a summary of the descriptive statistics of the firms examined. The mean of 4.4622 for IA indicates that Omani industrial firms have high calculated intangible assets in their balance sheets. For TQ with a value of 1.71 indicates that the market value of assets is higher than the book value which means the value of shares is overstated. From the DE stand point, Omani firms have

a mean score of DE 27%. This indicates that the risk level of risk among the industrial firms is considered moderate. Moderation of risk level could due to the business environment in Oman which is safe. The mean of dividends (DIV) distributed by the firms in the sample is 0.94, which means that these firms have the ability to generate and distribute the profit. The ratio is relatively high indicating that Omani firms seem focusing on paying off dividend to investors rather than reinvesting them on capital structure and for other stakeholders. The samples have also indicated a CR ratio of 2.56 indicating that firms have the capability to cover all their current liabilities as and when they fall due. Omani firms tend to pay off their debts when due which

Table 3. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
IA	46	3.00	8.21	4.4622	1.70248
TQ	46	-1.48	15.13	1.7136	2.19689
DE	46	.00	.87	.2685	.19765
DIV	46	.00	.94	.1593	.21221
CR	46	.00	13.60	2.5613	2.51751

is much in line with the culture and religious expectations on ethical practices in addition to the government regulations in this regard. With a high AT of 133 indicating that firms have the ability to sell their products and services within short period and turn them into cash and profits. This could be due to the high level of demand of services and products in the country and the competitive markets and environment. The ROA of 13.57% indicating Omani has maximized in their usage of assets in generating profits and returns. This ration is relatively high. Put all together, Omani industrial firms performed better in their financial returns compared to other sectors in Oman.

4.2. Multicollinearity Test

According to this test, ensuring that the independent variables are not influenced by other independent variables is crucial. Table 4 indicates that multicollinearity is not a problem, as the correlations between all the independent variables are relatively low and insignificant.

The problem of multicollinearity between the independent variables appears to be insignificant because all the correlations are low and insignificant (except for the correlation between debts and current ratio). Thus, multicollinearity is not a problem in this study, and the model is dependable.

4.3. Regression Analysis

A regression analysis is used to test the first hypothesis

by utilising the pooled OLS method. Table 4 shows the correlations between the variables. As shown in Table 4, the correlation between the dependent variable (Tobin's Q ratio) and current ratio (0.312) and intangible assets (0.298) is positive and significant at 0.05 and 0.01, respectively. However, the correlation between Tobin's Q and dividends (-0.295) is negative and significant at 0.05. Finally, the correlation between Tobin's Q and assets turnover, debt and ROA is insignificant.

Table 5 shows that R2 is 0.151, which implies that the independent variables included in the model explain 15.1% of the variance. In addition, Table 5 shows that the explanation power is 15.1%, which supports the model. This value means that firm value can be explained by intangible assets, financial policies and financial performance at approximately 15.1%, whereas the remaining can be explained by other variables, which are not studied in the model, and errors.

Table 6 presents the regression results. These results show that the F-stat figure of 1.554 (p = 0.017) implies that the independent variables are joint determinants of Tobin's Q at 0.05. The results of the model statistically support the significance of the regression model.

Table 7 indicates the definition of each variable in the equation.

Table 7 explains that the assets turnover, debts and intangible assets are significant variables in the regression equation of the model (Sig < 0.05). Thus, assets turnover, debts and intangible assets have a positive and significant effect on Tobin's Q.

Table 4. Correlation and Multicollinearity Test

	AT	CR	DIV	DE	ROA	IA	TQ
AT	1.000						
CR	0.284	1.000					
DIV	0.101	−0.007	1.000				
DE	−0.250	−0.457**	−0.085	1.000			
ROA	0.087	0.210	−0.043	−0.216	1.000		
IA	0.012	−0.162	0.106	0.225	0.204	1.000	
TQ	0.086	0.312*	−0.295*	0.048	0.194	0.298*	1.000

Table 5. Sample Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.449a	0.151	0.149	2.19845
a. Predictors: (constant) AT, CR, DIV, DE, ROA and IA				

Table 6. Model ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	42.846	6	7.141	1.554	0.017a
Residual	179.164	39	4.594		
Total	222.009	45			
a. Predictors: (constant) AT, CR, DIV, DE, ROA and IA					
b. Dependent Variable: Tobin's Q					

Table 7. Model Coefficients

Variables	B	T	Sig.
Constant	-0.134	-0.107	0.519
AT	0.004	1.916	0.042
CR	0.053	0.452	0.654
DIV	-1.447	-0.917	0.365
DE	2.819	2.252	0.036
ROA	0.001	0.272	0.953
IA	0.845	1.814	0.038

Dependent Variable: Tobin's Q

5. Discussion of Results

Literature and discussions on the effect of calculated intangible assets, financial performance and financial policies on firm value in emerging economies are limited. Numerous normative studies on the relationship between these variables exist; however, further empirical studies are necessary. According to Haji and Ghazali (2018), no concrete empirical evidence exists for this relationship. The present study serves as an empirical evidence for the emerging market of Oman. We find that a very low percentage of industrial firms in Oman have intangible assets, whereas approximately 78% have substantial calculated intangible assets over the five-year period of the study.

The empirical findings of this study indicate that Tobin's Q is influenced by assets turnover, a high level of leverage debts and calculated intangible assets. The companies with high levels of these indicators have satisfactory firm Tobin's Q value, which means that the industrial firms in Oman should be worth what they cost to be replaced.

The results of the study indicate that calculated intangible assets, assets turnover and debts affect firm

value. For example, the higher the intangible assets, the higher the firm value. The value generated by intangible assets is not always visible in financial statements. Such intangible assets play a vital role in determining the success of a company by increasing its value. In terms of the hypotheses tests, H1.1, H1.2 and H1.4 are accepted, whereas H1.3 is rejected. We use three measures of financial performance, that is, current ratio, assets turnover and ROA for H1.4. However, this hypothesis can be accepted only in terms of assets turnover.

The empirical evidence of H1.1 supports the results of Garanina and Pavlova (2011). Lew (2015) and Swanson (2018) found that intangible assets have a positive effect on firm value. The results of the present study support the idea that value creation is produced and increased not only by using physical assets but also by intangible assets. Intangible assets have a notable influence on an external successor's decision-making process and therefore on traditional issues of company succession.

Therefore, Omani industrial companies should increase their investments in assets in general and in intangible assets in particular and reduce dividends

for stockholders. Omani industrial companies have moved forward to use the dividends as a source of finance.

The positive regression between debts and Tobin's Q assumes that a high level of leverage will increase firm value. This finding is because industrial companies in Oman use funds from debts to invest in assets, including intangible assets, despite the risks. This empirical result is consistent with the results of Gamayuni (2015) and Alves and Martins (2014) who found that the use of debts as a financial source will encourage companies to increase their profit, which will consequently increase firm value.

Furthermore, the results of the present study are in line with the conclusions of Gamayuni (2015) and Pascareno (2016) regarding the effect of firm performance on firm value. In the same manner, if assets turnover is increased, firm profit will increase. Consequently, firm value will also increase because assets are used efficiently to create profit.

6. Conclusions

The main objective of this study is to empirically examine the effect of calculated intangible assets, financial performance and financial policy on the firm value of Omani industrial companies listed in the MSM.

Calculated intangible assets are used to determine the value of intangible assets owing to the small number of industrial firms in Oman that have direct intangible assets. Calculated intangible assets are measured by using excess returns, which was created by Stewart (1997). Firm value is measured by the value of Tobin's Q, whilst financial performance is measured by ROA, assets turnover and current ratio. Finally, financial policy is measured by the cash dividends ratio.

Numerous studies have found either a significant positive or a negative effect of intangible assets on firm value. Limited research has been conducted on the effects of intangible assets, financial performance and financial policy on firm value in the Sultanate of Oman. Thus, the present study attempts to empirically examine these effects to contribute to the literature.

The correlations results show a positive and significant association between the dependent variable, that is, Tobin's Q, and current ratio and

intangible assets at 0.05 and 0.01, respectively. However, the correlation between Tobin's Q and dividends is negative and significant at 0.05. Finally, the correlation between Tobin's Q and assets turnover, debt and ROA is insignificant.

The regression results show that assets turnover, debt and intangible assets are significant variables in the regression equation of the model ($\text{Sig} < 0.05$). Thus, Tobin's Q is influenced by the performance of assets turnover, high levels of leverage and high levels of intangible assets, given that companies with high levels of these ratios have excellent firm value.

The research findings have several important theoretical and policy implications. Firstly, the findings are consistent with the value creation view that firm value is a function of tangible and intangible firm resources. Secondly, the research findings provide empirical evidence that firm value is subject to different determinants such as financial performance, financial policy and intangible assets, which should be studied in this context. Finally, from a policy perspective, the findings show that a significant number of industrial firms have substantial amounts of intangible assets. We agree with the call of Haji and Ghazali (2014) to disclose information on intangible assets in firm financial reports. Moreover, auditors should give a signal to users of financial statements on the value of intangible assets through audit reports.

The present study has a few limitations. Firstly, the study uses a single measure of calculated intangible assets, that is, excess returns or the Stewart (1997) approach. Unfortunately, we could not find the actual amounts of intangible assets from the financial statements of the Omani industrial companies. Thus, we believe that using other measures to capture industrial assets will enhance the findings of the study. Secondly, we only use three variables (ROA for profitability performance, current ratio for liquidity performance and assets turnover for assets management performance) to measure financial performance. This limitation may produce uncertain results regarding the relationships between these measures and firm value. Thirdly, this study depends on the financial statements of industrial companies that include numerous estimations and uncertain information. Finally, the empirical evidence of this study is drawn from a single country (Oman) and

may be influenced by country-specific micro- and macro-level conditions. Thus, studies incorporating countries in the GCC and in the Middle East should extend the findings asserted in this study to provide further insights.

References

- Aho, S., Stähle, S., & Stähle, P. (2011). Critical analyses of the Calculated Intangible Value (CIV) method. *Measuring Business Excellence*, 4(4), 27-35.
- Alexandra, S. & Mihaela, P. L. (2013). Main approaches in measuring intangible assets. *International Journal of Education and Research*, 1(7), 1-6.
- Alves, S., & Martins, A. (2014). The impact of intangible assets on financial and governance policies: A simultaneous equation analysis. *Journal of Applied Finance and Banking*, 4(1), 61-89.
- Baker, H. K., & Powell, G. E. (2005). *Understanding financial management: A practical guide*. Blackwell Publishing.
- Balakrishnan, S., & Fox, I. (1993). Asset specificity, firm heterogeneity and capital structure. *Strategic Management Journal*, 14(1), 3-16.
- Maria Battagello, F., Grimaldi, M., & Cricelli, L. (2016). A disclosure of the set of intangible resources: A value-based snapshot of the strategic capital. *Journal of Promotion Management*, 22(4), 588-603.
- Blair, M., & Wallman, S. (2003). The growing intangibles reporting discrepancy. In J. Hand & B. Lev (Eds.). *Intangibles: Management, measurement, and reporting* (pp. 449-468). Brooking Institution Press.
- Blattberg, R. C., Getz, G., & Thomas, J. S. (2002). Customer equity: Building and managing relationships as valuable assets. *Long Range Planning*, 35(6), 657-661.
- Bubic, J., & Susak, T. (2015, 9-10 April). *The impact of intangible assets on financial performance of Croatian companies* [Conference presentation]. 9th International Scientific Conference, Economic and Social Development, Istanbul, Turkey.
- Central Bank of Oman. (2018). Financial stability report. (CBO publication Issue 6). Oman <https://cbo.gov.om/sites/assets/Documents/English/Publications/FSR/FinancialStabilityReport2018En.pdf>
- Gamayuni, R. R. (2015). The effect of intangible asset, financial performance and financial policies on the firm value. *International Journal of Science and Technology Research*, 4(1), 202-212.
- Garanina, T., & Pavlova, Y. (2011). Intangible assets and value creation of a company: Russian and UK evidence. In G. Turner & C. Minonne (Eds.), *Proceedings of the 3rd European conference on intellectual capital* (pp. 165-175). Academic Conferences Limited.
- Gordon, M. J. (1963). Optimal investment and financing policy. *The Journal of Finance*, 18(2), 264- 272.
- Gul, S., Sajid, M., Razzaq, N., Iqbal, M. F., & Khan, M. B. (2012). The relationship between dividend policy and shareholder's wealth (Evidence from Pakistan). *Economics and Finance Review*, 2(2), 55 – 59.
- Haji, A. A. & Ghazali, Na. A. M. (2018). The role of intangible assets and liabilities in firm performance: empirical evidence. *Journal of Applied Accounting Research*, 19(1), 42-59. <https://doi.org/10.1108/JAAR-12-2015-0108>
- Ibrahim, M. A. A., & Ahmed, M. E. (2013). Accounting of Intangible Assets an Empirical Study on the Saudi environment. *New York Science Journal*, 6(2), 71-82.
- Kraaijenbrink, J., & Spender, J. C. (2011, November). Theories of the firm and their value creation assumptions. In *Annual International Conference of the Strategic Management Society* (pp. 6-9).
- Lev, B. (2001). *Intangibles: Management, measurement, and reporting*. Brooking.
- Lew, S. H. (2015). *Investment expenditures and firm value*. <https://ssrn.com/abstract=2695674>
- Li, H., & Wang, W. (2014). Impact of intangible assets on profitability of Hong Kong listed information technology companies. *Business and Economic Research*, 4(2), 98-113.
- Lopes, I. & Rodrigues, A. M. G. (2007). Intangible assets identification and valuation – a theoretical framework approach to the Portuguese airlines companies. *The Electronic Journal of Knowledge Management*, 5(2), 193 – 202.
- Love, J.H., & Roper, S. (1999). The determinants of innovation: R and D, technology transfer and networking effects. *Review of Industrial Organization*, 15(1), 43-64.
- Mantoh, R. K. (2015). Intangible assets, firm performance and value creation An empirical study of German public limited companies. [Unpublished Master Thesis]. Department of Economics and Business Economics, School of Economics Business and Social Science Aarhus University.
- Martins, J., & Alves, S. (2010). The Impact of intangible assets on financial and governance policies: A literature review. *Portuguese Journal of Management Studies*, 15(1), 87-107.
- Miller, M. H., & Modigliani, F. (1961). Dividend Policy,

- Growth, and the Valuation of Shares. *Journal of Business*, 34, 411-433.
- Modigliani, F., & Miller, M. (1958). The cost of capital, corporation finance and the theory of investment. *American Economic Review*, 48(3), 261-297.
- Moeller, K. (2009). Intangible and Financial Performance: causes and effects. *Journal of Intellectual Capital*, 10(2), 224 – 245.
- Pascareno, B. E. (2016). The effect of financial performance on company's value moderated by dividend policy: Case study - insurance company and banking company that listed in Indonesia Stock Exchange. *Jurnal Ekonomi Bisnis*, 21(1), 7-20.
- Petkov, R. R. (2011). The current financial crisis and its potential impact on internally generated intangible assets. *International Journal of Business and Management*, 6(3), 37-44.
- Stewart, T. A. (1995). Trying to grasp the intangible. *Fortune*, 132(7), 157-161.
- Sucuahi, W. & Cambarihan, J. M. (2016). Influence of profitability to the firm value of diversified companies in the Philippines. *Accounting and Finance Research*, 5(2), 149-153.
- Swanson, Z. L. (2018). Internal intangible asset effect on firm valuation. <https://ssrn.com/abstract=3134117>
- Thavikulwat, P. (2004) Determining the value of a firm. *Developments in Business Simulation and Experiential Learning*, 31, 210-215.
- Titova, N. (18-19 April). (2011). Summary on intellectual capital value added (VAIC) and calculated intangible value (CIV) all over the world: Lessons to be learnt *Proceedings of the 3rd European Conference on Intellectual Capital* 543. University of Nicosia, Cyprus.
- Vishnani, S. & Shah, B.K. (2008). Value relevance of published financial statements with special emphasis on impact of cash flow reporting. *International Research Journal of Finance and Economics*, 17, 84-95.
- Widiantoro, D. (2012). Measuring the impact of intangible asset investment toward companies financial health and agency problem: Empirical research from Indonesian companies during world financial crisis period 2006-2011 [Unpublished master thesis]. University of Agder, Faculty of Economic and Social Sciences Department, Norway.