

The Influence of Corporate Governance on the Working Capital Management Efficiency of Omani Firms

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Abstract: Corporate world has felt the demise since the inception of corporate governance scandals which has subsequently questioned the performance of the corporate governance system. Afterwards, financial literature received greater paramount to analyse the corporate governance system in relation to different parameters of the firms. The study has attempted to extract good corporate practices which will provides useful information and intuition to equity investors, security analyst, policy maker and financial management consultant. This study uses regression and correlation techniques to investigate the impact of corporate governance on working capital management efficiency of Omani firms employing causal correlation research design and a sample of 62 firms listed at Muscat Securities Market for the period of 3 years from 2016-2018. The results show that audit committee, board size and gender effect improve utilization of the working capital.

Keywords: Cash Conversion Cycle, Corporate Governance, Corporate Governance Index.

1. INTRODUCTION

Qianhua & Huili (2019) argues that Corporate governance (CG) has occupied explicit recognition in modern corporate world. The growth and stability of businesses is highly dependent upon corporate governance. Corporate governance has been defined as “Procedures and processes according to which an organization is directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the organization such as the board, managers, shareholders and other stakeholders and lays down the rules and procedures for decision-making” (Małgorzata & Tomasz, 2018).

In the last two decades, several corporate scandals such as those happened in case of Enron, WorldCom, Adelphia, Parmalat, Tyco etc. has materialized the role of corporate governance prominent. Due to such incidents, it has led to emerge various corporate governance laws like Sarbanes-Oxley act 2002 to block its way. Researchers and academia now check CG system with different parameters of the firms like profitability and growth etc. to make fair judgment about organizational resources (Xinyuan & Jun, 2019).

2. LITERATURE REVIEW

Pioneer study conducted by Amalia & Atika (2018) using a model to estimate for the firm real cash holding balance, for which data was collected from US manufacturing firms for the period of 16 years taking from 1948 to 1964. In results, it was found that the demand for cash or requirement of cash balance increases as output increases. In the study of Puritud, Jim & Michael (2018) “the impact of corporate governance on working capital management efficiency of American manufacturing firms” conducted for the time frame of 2009- 2011 using a sample of 180 companies. the analysis was done through correlation and regression. The study used CEO tenure (CT), CD, Audit committee (AC), and BS to measure corporate governance and WCM was measured by AR, AP, INV, CCC, CH, and cash conversion efficiency. The study also used sales growth (SG), internationalization of firm (FI), firm size (FS) and sales growth as control variables. It was found that corporate governance does play important role in the management of working capital (Hemathilake & Chathurangani, 2019).

Surbhi & Sandeep (2019), in their study “impact of corporate governance on the current assets management of the companies listed in Bombay stock exchange” the study used a sample size of 70 companies. CG mechanisms was CT, CD, BS and WCM was measured by AR, AP, INV, and CH. SG, FS and firm performance (FP) were used as control variables. In results, it was found that corporate governance does play important role in the management of working capital. Alaa & Clare (2016) in their study, also studied the impact of CG on WCM using a sample size of 25 companies listed at Colombo stock exchange. The findings reveled that some of the mechanisms of the CG influence performance of the WCM (Kothari, 2019).

Sandrine (2016), investigated “the relationship between the efficiency of WCM and corporate rule in London stock exchange” using 115 companies as a sample size for the period of 2008 – 2013 and employing regression analysis technique. They found that small boards of directors are more effective as compared to large board of directors while making decision. Also, the findings of this research are in line with the findings of previous studies (Amira & Chin (2016). Analyzing the relationship between corporate governance and working capital management efficiency on the basis of a sample consists of 42 firms listed in Nairobi security exchange, Romlah, Razieh & Zaleha (2018) found that corporate governance and working capital are significantly related to each other. Audra (2018), conducted study on “The Effect of Corporate Governance Mechanisms on working capital management efficiency of corporations accepted in London stock exchange” using a sample size of 75 companies. The study used a time frame taking from 2009 - 2014. Variables of the study were institutional ownership, CD and CT as independent variables and AR, AP, CCC, CR, and Cash Conversion Efficiency as dependent variables. The findings of the study revealed (Hemathilake & Chathurangani, 2019):

- That CD and Institutional ownership influence A/R, A/P, INV, CCC, CR.
- No influence on cash Conversion efficiency.
- CT influence CCC while no influence on cash conversion efficiency

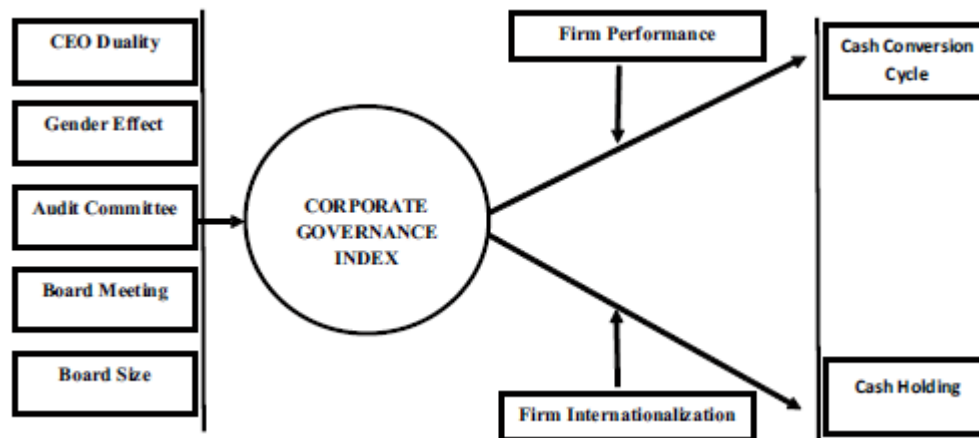


Figure 1: Corporate Governance Index (Jean, Hyacinthe & Pascale, 2016)

Rayenda, Ritzky & Theresa (2019) conducted a study to determine the relationship between working capital management efficiency and earnings before interest and tax (EBIT) in the textile sector of London. They used three index variables ‘PI’, ‘UI’ and ‘EI’ to measure working capital management efficiency. The results of their study indicated that there is a positive relationship between working capital management efficiency and EBIT. Furthermore, Christofer, Sue & Alan (2017) investigated the optimal efficiency of working capital management and its relationship with efficiency of assets in categorized industries in US. They utilized both the CCC and EI to measure working capital management efficiency. According to their conclusions, the EI is more suitable in determining working capital management efficiency as compared to the CCC.

Ali, Stephen, Jung & Yanhui (2016) did a study on the impact of corporate governance on working capital management efficiency of American manufacturing firms. They used CEO tenure, CEO duality, and audit committee and board size to measure corporate governance. On the other hand, accounts receivables, account payables, CCC, cash conversion efficiency and sales growth as well as current ratio were used to measure working capital management efficiency. They concluded that corporate governance improves a firm’s working capital management efficiency.

According to Jia & Zhang (2019) there is no significant relationship between corporate governance and working capital management efficiency. The results of the study indicated that board size, board leadership structure and board committee have no significant impact on working capital management efficiency. The objective of the study was to determine the impact of corporate governance practices on working capital management in Oman. The study used CEO duality, board size and number of committees as well as board meeting to measure corporate governance. On the other hand, working capital management efficiency was measured using CCC, current liabilities to total assets and current assets to total assets.

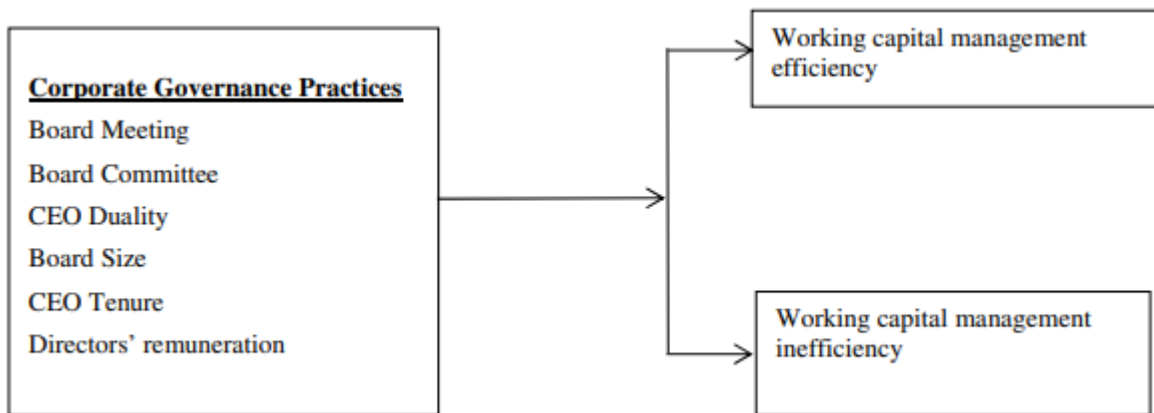


Figure 2: Conceptualization (Vicar, 2017)

3. METHODOLOGY

Research design

This study has used casual correlation research design to study the behavior of firms displayed in panel data. Panel data is a suitable structure which enables the researchers to make statistical inferences about the population with greater accuracy. It enables the researchers to generalize their findings to the situation exist in practical business environment which subsequently increase the external validity of the research study. This type of research design is suitable to study CG influence on WCM efficiency of firms listed in Muscat Securities Market (MSM) Oman.

Data collection

This study collected raw data from MSM and company annual reports. For further processing, data have been arranged in excel and then analyzed in EVEIWS and SPSS. Before running regression main assumptions of the regression has been satisfied namely linear Relationship, Auto correlation, Multicollinearity, and Heteroscedasticity. Hypotheses of the study have been tested using T-test, F-test and P-value.

Sampling Techniques

Under this study, probability sampling technique has been used followed by stratified random sampling technique. The sample size includes 62 companies listed on MSM for the period of 3 years taking from 2016-2018. Sample size represent up to 16% of population (list of companies mentioned in appendix 2). Muscat Securities Market (MSM 30- Index) is a market capitalization based and Companies selected in the sample are most representative of the index having larger market capitalization.

Research hypotheses

H1: There is a significant influence of CG on WCM efficiency.

H2: There is a significant influence of AC on WCM efficiency.

H3: There is a significant influence of BM on WCM efficiency.

H4: There is a significant influence of BS on WCM efficiency.

H5: There is a significant influence of CD on WCM efficiency.

H6: There is a significant influence of GE on WCM efficiency.

H7: There is a significant influence of CG on CH.

Econometric Models

$$\text{Regression Model (1)} = \alpha + \beta_1 \text{CGI} + \text{FP} + \text{FI} + \mu_{it}$$

$$\text{Regression Model (2)} = \alpha + \beta_1 \text{ACit} + \beta_2 \text{BM} + \beta_3 \text{BS} + \beta_4 \text{CD} + \beta_5 \text{GE} + \text{FP} + \text{FI} + \mu_{it}$$

$$\text{Regression Model (3)} = \alpha + \beta_1 \text{CGI} + \text{FP} + \text{FI} + \mu_{it}$$

Notes: μ_{it} -error term; α -is the y intercept; β -is the slope of coefficient

Measurements of Variables

Details of variables used in the study and their measurement are provided in table.

Table 1

Variables	Measurements
Dependent Variables	
Cash Conversion Cycle	Collection period + Inventory period – Payment period
Cash Holding	Log of Average Cash
Independent Variables	
Audit Committee	Value 5 if the members range is 5 and >, otherwise as mentioned by the scale
Board Meeting	Value 5 for 9 and >meetings, otherwise as mentioned by the scale
Board Size	Value 5 for 8-11 board members, otherwise as mentioned by the scale
CEO duality	Value 5 for CEO, otherwise 1 for CEO duality
Gender Effect	value 5 if the % of Gender is in between 41%-50%, otherwise as mentioned by the scale
Control Variables	
Firm Performance	Net income after tax / Revenue
Firm Internationalization	Value 5 for international firm, otherwise 1

Construction of Corporate Governance Index (CGI)

For this study, CGI (Details provided in appendix 1) has been incorporated in which specific numeric numbers on a scale of 1-5 have been assigned to the five mechanisms of corporate governance which includes CD, AC, BM, GE, and BS. Value 1 is assigned to the variable if it has revealed lower effect, and value 5 is assigned to the variable if it has revealed higher effect. Similarly, this criterion has been used for all the variables. Consequently, the index has been calculated using the formula adopted from the study of Brian, Steve & Angelo (2018), as given in equation 1.

$$\text{Corporate Governance Index} = \frac{\text{Company Score}}{\text{Maximum Score}^*} \quad \text{[Equation 1]}$$

* Maximum score is 25

4. RESULT & DISCUSSION

Descriptive Analysis

Descriptive statistics are presented in *table2*.

<i>Variables</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
CCC	186	-345.5	551.9	35.302	105.5381
CH	186	7.7	17.9	12.247	2.1663
AC	186	20	80	42.043	7.061
BM	186	40	100	57.097	17.4654
BS	186	20	100	77.419	21.8547
CD	186	20	100	88.387	28.2571
G. E	186	20	100	29.892	18.7441
CGI	186	240	640	384.516	78.4239
FP	186	-668.5	763.4	2.29	80.4602
FI	186	1	5	1.946	1.7045
Valid N (list wise)	186				

NOTE: Total observation 62×3=186; AC- Accounts Receivable; AP- Accounts payable INV- Inventory; CCC - Cash Conversion Cycle; AC- Audit Committee; BM – Board Meeting; BS - Board Size; CD - CEO duality; GE - Gender Effect; CGI – Corporate governance index; FP - Firm Performance; FI - Firm internationalization. The original values of corporate governance are transformed to corporate governance index. CCC is used as a proxy for working capital in this research.

Correlation Analysis

Positive Relationship Between:

- CCC and CGI is positively correlated.
- CH and FI is positively correlated.

Negative/No Relationship Between:

- FP and CCC are not correlated.
- CH and CGI is insignificantly negatively correlated.
- FI and CCC are not correlated.

Regression Analysis

Regression and model results are presented in table 3 and 4 respectively.

Table 3: Regression results

<i>Assumptions</i>	<i>Test</i>	<i>Probability value for each Model</i>						
		<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>		
Auto correlation	Pesaran	0.8351		0.6374		0.3456		
Heteroscedasticity	Harvey	0.5638		0.2149		0.4996		
Multicollinearity	Tolerance(T)/VIF (V)	<u>T</u>	<u>V</u>	<u>T</u>	<u>V</u>	<u>T</u>	<u>V</u>	
		0.928	1.087	0.899	1.112	0.92	1.112	
		CGI, FP, FI	0.919	1.088	0.946	1.057	0.919	1.057
		AC, BM, BS, CD,	0.999	1.001	0.958	1.052	0.999	1.052
		GE			0.831	1.203		
				0.828	1.207			
				0.889	1.136			
				0.942	1.061			

Table 4: Model results

Model	Test	Chi- Sq. Statistics	P-value	Hypothesis	Result
Model 1	Hausman	1.81367	0.6128	H ₀	Random Effect
Model 2	Hausman	3.72885	0.8104	H ₀	Random Effect
Model 3	Hausman	17.4319	0.0006	H ₁	Fixed Effect

Hypotheses Testing

Hypotheses testing involve testing underlying research theory. Table 5 given below show the results of the regression models. By looking at first hypothesis, the value of C is 0.236749 meaning that it causes almost 23% of variation in the dependent variable when all the independent variables effects are zero. The P-value of intercept is less than .05 meaning that this variation is statistically significant. There is a positive correlation between CCC and CGI. The coefficient of CGI is 4.654632 meaning that a change of 1% in CGI brings 4% variation in CCC. However, it is not statistically significant. Adjusted R2 of the model is .809 meaning that it causes almost 81% variations in the dependent variable. F-statistics shows model overall fitness; the value of F-statistics is 12.871 which shows that the model is suitable for estimating population parameters. second, third, fourth, fifth and sixth hypotheses have been tested using second regression model. in the second model the Value of C is -90.99784 meaning that it causes 90% negative variation in the dependent variable when all the independent variables effects are zero.

The P-value of intercept is more than .05 meaning that this variation is statistically insignificant. Coefficient of AC is 2.406677 meaning that a 1% change in AC brings 24% of variation in CCC and is statistically significant; Similarly, BM, BS, CD, and GE. The adjusted R-Squared of the model 2 causes 85% of variations in the dependent variable (CCC). The model is also statistically significant showing best fit and carrying a value of more than 4 (F-Statistic) which means that such model is appropriate for estimating population parameters. Adjusted R2 of the third model is .987 meaning that it causes 98% of variation in the dependent variable.

Table 5: Regression model results

Variables	Coefficient	Std.Error	T-Statistics	Prob
<i>CG impact on WCM (R²= .809; Adjusted R²=.783; F-statistics=12.871; Sig=0.035)</i>				
C	0.236749	0.10718	2.208859	0.0284
CGI	4.654632	6.50555	0.715487	0.4752
FP	-0.095558	0.06451	-1.481246	0.1403
FI	-64.56885	44.6648	-1.445631	0.1500
<i>AC,BM,CD,BS, GE Impact on WCM (R²=.854; Adjusted R²=.717; F-statistics=44.465; Sig=0.000)</i>				
AC	2.398023	0.30123	7.960672	0.0000
BM	0.054248	0.30783	4.176244	0.0603
BS	-0.170879	0.39513	-8.432464	0.0059
CD	0.282528	0.22853	1.236275	0.2187
GE	1.115436	0.45655	2.443198	0.0155
FP	-0.109712	0.05884	-1.864543	0.0639
FI	3.766379	4.20683	0.895299	0.3718
C	-120.7768	28.7064	-4.207321	0.0000
<i>CH impact on WCM (R²=.991; Adjusted R²=.987; F-statistics=226.421; Sig= 0.000)</i>				
C	0.000562	0.00043	1.312413	0.1919
CGI	0.000557	0.00033	1.670945	0.0973
FP	0.144358	0.02788	5.178019	0.0000
FI	11.74567	0.17395	67.52283	0.0000

Hypotheses testing summary

Table 6 summarizes the results of the null and alternate hypotheses

Table 6: Null and alternate hypotheses results

S.NO		HYPOTHESIS	RESULT	TOOL
1	H ₁	CG impact on WCM efficiency	Rejected	Regression
2	H ₁	AC impact on WCM efficiency	Accepted	Regression
3	H ₁	BM impact on WCM efficiency	Rejected	Regression
4	H ₁	BS impact on WCM efficiency	Accepted	Regression
5	H ₁	CD impact on WCM efficiency	Rejected	Regression
6	H ₁	GE impact on WCM efficiency	Accepted	Regression
7	H ₁	CH impact on WCM efficiency	Rejected	Regression

This study was aimed at to determine the impact of corporate governance on working capital management efficiency collectively using CGI and individually by AC, BM, BS, CD, and GE. Also, cash holding as a main ingredient of the working capital used as a criterion variable and have been regressed by CGI; the findings are:

- Corporate governance index and working capital management are positively correlated; meaning that corporate governance improves utilization of the working capital.
- Audit Committee Impact Cash Conversion Cycle which means that AC improves working capital.
- Board meeting does not improve utilization of the working capital.
- Board size negatively impact working capital.
- CEO duality does not improve working capital.
- Gender effect significantly improves utilization of the working capital.

The findings of this study are consistent with the findings of the previous authors. The details of key findings are enlisted in the table 7 below.

Table 7

Authors	Findings	Country
Gil and Biger (2013).	CG improve WCM	Canada
Dolatabadi, (2015)	CEO tenure, Board Size, CEO duality jointly improve A/R, A/P, INV and Cash Holding	Iran Sri Lanka
Kajananthan,R. Achchuthans (2013)	There is no significant mean difference between the level of WCME and CG practices such as BC, BM, and proportion of non-executive directors except board leadership structure	Sri Lanka
Gil and shah (2012)	Board size and CEO duality positively impact cash holding while negatively impact net working capital	Canada
Kamaz and Basweti (2013)	CG does not improve WCM	Kenya
Mansour,A. Seid Mirbakch, K,M. and Rehmatollah, M (2015)	CEO duality and institutional investors influence A/R, A/P, Stock,CCC, and Current Ratio CEO tenure influence CCC while no influence on cash conversion efficiency	Iran

5. CONCLUSION

The purpose of the present study was to determine the impact of CG on WCM. In results, it is found that some corporate governance mechanisms improve utilization of the working capital. AC significantly impact CCC meaning that an increase in the number of AC's not only boost the efficiency of WC but also the efficiency and prominent role of accounting functions which thus ensure public confidence over the books of accounts of the firms. BS negatively impact WC, thus supporting past studies. Smaller board size should be encouraged to productively manage WC. GE which is the % quota of feminine gender on the board positively impact CCC meaning that more and more feminine gender should be encouraged to join the board for improvement in WC. Such action also implies and provides scientific justification to the concept "Equal Employment opportunities". CD and BM does not impact CCC which means that CD and BM has nothing to do with the efficiency of WC. The resultant evidence on maximum points are consistent with the studies of (Aguilera & Terjesen, 2018) and (Kothari, 2019).

Future research should seek to investigate the comparative impact of corporate governance on WCM between financial and non-financial firms. Important control variables should be added to the equation.

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APPENDIX 1: CORPORATE GOVERNANCE INDEX

Audit Committee														
Rating Scale	Consideration	Assignment of Score												
1-5	<div style="display: flex; justify-content: space-around;"> 1-2 3-4 5&> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> 0 1 2 3 4 5 </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <i>Bad</i> <i>Adequate</i> <i>Excellent</i> </div>	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Score</th> <th>Years</th> </tr> </thead> <tbody> <tr style="background-color: #f2f2f2;"> <td>5</td> <td>5&></td> </tr> <tr> <td>4</td> <td>4-5</td> </tr> <tr> <td>3</td> <td>3-4</td> </tr> <tr> <td>2</td> <td>2-3</td> </tr> <tr> <td>1</td> <td>1-2</td> </tr> </tbody> </table>	Score	Years	5	5&>	4	4-5	3	3-4	2	2-3	1	1-2
	Score	Years												
	5	5&>												
	4	4-5												
	3	3-4												
	2	2-3												
1	1-2													
Rating Criteria														
literature showed that greater the number of audit committee members enhances keeping of the books of account and develop outsiders trust														
Board Size														
Rating Scale	Consideration	Assignment of Score												
1-5	<div style="display: flex; justify-content: space-around;"> 12&> Members 6-8 Members 8-10 Members </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> 0 1 2 3 4 5 </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <i>Bad</i> <i>Adequate</i> <i>Excellent</i> </div>	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Score</th> <th>Board Members</th> </tr> </thead> <tbody> <tr style="background-color: #f2f2f2;"> <td>5</td> <td>(8-10)</td> </tr> <tr> <td>4</td> <td>(4-6)</td> </tr> <tr> <td>3</td> <td>(6-8)</td> </tr> <tr> <td>2</td> <td>(10-12)</td> </tr> <tr> <td>1</td> <td>(>12)</td> </tr> </tbody> </table>	Score	Board Members	5	(8-10)	4	(4-6)	3	(6-8)	2	(10-12)	1	(>12)
	Score	Board Members												
	5	(8-10)												
	4	(4-6)												
	3	(6-8)												
	2	(10-12)												
1	(>12)													

Rating Criteria		
literature showed that small board of directors should be encouraged because it brings rational decision making and effective communication. Some studies suggested that a board size of 8-10 represent balance board Evidence yermack (1996), Lipton and Lorch 1992), Kyereboah-coleman (2007)		
CEO Duality		
Rating Scale	Consideration	Assignment of Score
1-5		Score
		5
		4
		3
		2
		1
		CEO Duality
		CEO
		CEO+Chairman

Rating Criteria		
Literature showed when the CEO and Chairperson are separate in terms of responsibilities they both allocate sufficient time, devotion and attention to their respective responsibilities. There is a lot of studies supporting this argument		
Gender Effect		
Rating Scale	Consideration	Assignment of Score
1-5		Score
		5
		4
		3
		2
		1
		Gender Effect
		(41%-50%)
		(31%-40%)
		(21%-30%)
		(11%-20%-51%-60%)
		(<10%&>60%)

Rating Criteria		
41%-50% represent balance on the board		
Board Meeting		
Rating Scale	Consideration	Assignment of Score
1-5		Score
		1
		2
		3
		4
		5
		Board Meeting
		0-1
		1-2
		3-4
		4-5
		5&>

Appendix 2: List of sample MSM Companies (<https://msm.gov.om/companies.aspx>)

1. Al Anwar Ceramic Tiles
2. Al Anwar Holding
3. Ahli Bank
4. Al Ahlia Insurance
5. Al Jazeera Services Pref Share
6. Almaha Ceramics
7. Al Madina Investment
8. Al Omaniya Financial Ser.
9. Al Batinah Power
10. Bank Dhofar
11. Alizz Islamic Bank
12. Bank Muscat
13. Bank Nizwa
14. Sohar International Bank
15. Dhofar Beverages Food Stuff
16. Dhofar Fisheries And Food Ind.
17. Dhofar Generating Company
18. Dhofar Insurance
19. Dhofar Int.Dev.And Inv. Hold.
20. Dhofar Poultry
21. Dhofar Tourism
22. Hsbc Bank Oman
23. Al Hassan Engineering
24. Muscat City Desalination
25. Muscat Insurance
26. Muscat Finance
27. Majan Glass
28. Muscat Gases
29. Almaha Petroleum Products Mar.
30. Musandam Power
31. Muscat Thread Mills
32. National Aluminium Products
33. National Biscuit Industries
34. National Bank Of Oman
35. National Detergent
36. National Finance
37. National Gas
38. National Life & General Ins
39. National Mineral Water

40. National Real Estate Dev.& Inv
41. Oman Cables Industry
42. Oman Int. Marketing
43. Oman Ceramic Company
44. Ominvest
45. Oman National Engine. Invt.
46. Oman Oil Marketing Pref Shares
47. Oman Oil Marketing
48. Oman Packaging
49. Oman Qatar Insurance
50. Oman Refreshment
51. Ooredoo
52. Oman Telecommunication
53. Oman United Insurance
54. Raysut Cement
55. Salalah Mills
56. Salalah Beach Resort
57. Sohar Power
58. Shell Oman Marketing
59. Asaffa Foods
60. Takaful Oman Insurance
61. Taageer Finance
62. United Power