

Online financial disclosure and firms' performance

Evidence from the Gulf Cooperation Council countries

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Abstract

Purpose – The purpose of this paper is to investigate the association between online financial disclosure (OFD) and firms' performance in the Gulf Cooperation Council (GCC).

Design/methodology/approach – Extensive literature review was carried out and a checklist of 90 items (71 for content and 19 for presentation) was developed to measure the level of OFD by the firms that are listed in financial sectors of the GCC Bourses.

Findings – The findings show that the overall OFD in GCC is 77 percent. The results indicate a positive association between OFD and firms' performance.

Practical implications – The study recommends that regulatory bodies should develop a guideline of disclosing information through the internet in order to enhance the corporate transparency and performance among the GCC listed companies leading to reasonable economic decision making.

Originality/value – Additionally, the study contributes to financial reporting and performance literature relating to the GCC countries.

Keywords Performance, Voluntary disclosure, GCC countries, Online financial disclosure

Paper type Research paper

1. Introduction

After the financial scandals of 2002 and 2008, companies around the world became more attentive to disclosing additional information to investors and users of financial information, to increase transparency and signal good performance (Al-Sartawi *et al.*, 2013). Online financial disclosure (OFD) is recently considered as one of the most important tools used by a growing number of firms around the world to disclose information to decision makers. The growth in the number of internet users and disclosed information has had a major impact on the performance of different legal and economic frameworks globally (Aqel, 2014).

Using OFD enhances transparency by disclosing symmetrical information to shareholders and stakeholders and thereby reducing the agency problem through the presentation of the management's transparency and accountability in conducting a business. Despite the widespread use of OFD, there are differences between companies regarding the level of information disclosed. By increasing the level of financial information disclosed, firms would be able to increase the demand on their shares, hence enhancing their performance in the long run. Nevertheless, the huge amount of disclosed information could distort the investors' ability in evaluating the real performance of the firms.

Several previous studies (Al-Mohannadi and Syam, 2007; Jullobol and Sartmool, 2013; Dima *et al.*, 2013; Al Shaar *et al.*, 2015; and Al-Sartawi, 2017a, b) argue that there is a positive association between the level of reporting and performance. On the other hand, studies by Coram (2010) and Flostrand and Strom (2006) conclude that the level of disclosure has no effect on the firms' performance.

According to the IMF (2014), the Gulf Cooperation Council (GCC) countries share a common goal for economic development distinct from their OPEC membership. According to their geographic location, the GCC countries are considered as the heart of the Middle East, providing quick and easy access to every market in the region. They are among the



richest countries in the world (per capita basis), as together they supply one-third of US oil and own almost \$225 billion of US debt (Amadeo, 2017). OFD and firms' performance

However, over the past decades, these countries have undergone strong growth in their non-oil economies, and to attract more foreign investments, the GCC countries have recently introduced their own corporate governance codes. Thus, enhancing the regulated environments and encouraging voluntary disclosures (Al-Sartawi, 2013). As a result, these potential foreign investors expect and demand timely as well as accurate financial information that would help them to carry out certain decisions such as whether to invest in a company or not. One way companies could deliver this is through OFD.

There are limited studies that have undertaken the association between OFD and firms' performance in the GCC countries, so it is interesting to test the association between OFD and firms' performance from the perspective of the financial sectors of these countries. Consequently, this research objective can be summarized as research questions of:

RQ1. What is the level of OFD by the firms listed on the financial sector of the GCC Bourses?

RQ2. What is the association between OFD and firms' performance in the GCC listed companies in the financial sector?

The findings and recommendations of this study will help standard setters and regulatory bodies in the GCC countries to formulate strategies that would encourage OFD by the listed companies to attract investors and to enhance their performance. Such research is not only significant for preparers and users of financial information, but also raises concerns regarding the regulatory systems in GCC countries. Additionally, managers may realize the importance of information disclosure and learn the determinants of better disclosure practices. This will result in reducing the monitoring costs and create a better provision of information to stakeholders and potential investors. Thus, increasing the chance of making healthier and economically sound decisions regarding their investing activities.

2. Literature review

Managers usually hide information and consider their own interest instead of the shareholders' interest in asymmetrical disclosure situations. Based on Fama (1980) and Fama and Jensen (1983), the agency theory assumes that managers have the incentive to take actions that benefit themselves yet are costly to shareholders. On the other hand, Basuony and Mohamed (2014) claimed that large firms tend to disclose more information that would reduce information asymmetry and, in turn, reduce agency costs.

Recently, the effectiveness of financial reporting, accounting standards, corporate governance and accountability has been questioned around the world due to the consecutive global financial crises of 2002 and 2008 (Al-Sartawi, 2013; Rabelo and Vasconcelos, 2002). Consequently, countries have become more attentive to refining their regulations and increasing the size of their economies by attracting more investors and by encouraging the companies to keep a powerful internal control system as well as promoting accurate and timely disclosure of all material matters related to the performance, financial condition, governance and ownership of corporation (Ramadhan, 2014). Refining regulations would also lead to an increase in the level of disclosure to internal and external users, thus, lowering the companies' capital cost, improving the marketability of shares and gaining investors' confidence (Meek *et al.*, 1995).

Furthermore, in their study, Basuony and Mohamed (2014) showed that large firms prefer to disclose financial information using the internet as they can benefit from disclosing up-to-date information and low costs that result from the firms having the resources to do so. Similarly, according to Al-Sartawi *et al.* (2017), firms are interested in improving financial

reporting by enhancing transparency and, in turn, eliminating information asymmetries and agency problems. Therefore, it can be concluded that disclosing financial information in a timely manner will enhance firms' performance by reducing the costs of agency, defending investor rights as well as improving their confidence.

A good corporate governance system requires firms to report information in a timely, clear and comparable manner, especially concerning financial issues, management and company ownership (Lucinia, 2015). Additionally, the adoption of OFD is addressed in the context of the economics of financial disclosure as a means of mitigating agency problems, with OFD adoption argued to be a function of both the dominant corporate governance model and the enabling infrastructures in the country (Ojah and Moloalei-Mokoteli, 2012).

Due to well-developed infrastructures and advanced technology, the internet has created a new way of sharing information with the investors and shareholders. Kelton and Ya (2008) noted that the internet is a unique disclosure tool that could be utilized to promote different forms of presentations, and which allows fast, wide and cheap communication to interested parties (Kelton and Ya, 2008). People have started using the internet for business purposes since the early 1990s, and companies started to realize its importance in disseminating the financial information in the mid-1990s (Petravick and Gillett, 1996). Khan and Ismail (2012) believed that the internet has become one of the most popular sources of getting the information. Consequently, traditional financial reporting is becoming less effective compared to the usage of OFD. Almilia (2009) stated that electronic-based reporting eliminates the limitations of paper-based reports and presentations, making traditional paper-based corporate reporting less effective for decision makers. Furthermore, Purba *et al.* (2013) claimed that when companies use the internet to report their financial information to all interested parties, they use OFD.

Poon and Yu (2012) argued that when firms use websites to disseminate information regarding their financial performance they are implementing OFD. As a result, OFD can be defined as the public reporting of financial and operating data by a business enterprise by the related internet-based communications medium (Lymer *et al.*, 1999). Hunter and Smith (2010) referred to OFD as the use of a company's website to distribute information about the company's financial performance. Other authors have also defined OFD as the disclosure of the financial statements reporting by using technology such as multimedia and web tools analysis (Lizzcharly *et al.*, 2013). Ashbaugh *et al.* (1999) stated that OFD is regarded as a means of effective communication to different stakeholders such as investors, customers and shareholders.

Besides defining OFD, several studies have investigated the factors that have an impact on OFD. For instance, Almilia (2009) used firm size, profitability and leverage to uncover the factors that affect the use of OFD. Also, Basuony and Mohamed (2014) added more factors that would affect OFD in their study which are firm size, return on assets (ROA), leverage, industry and auditor type. Sanad and Al-Sartawi (2016) argued that corporate governance and institutional investor ownership also have a limited effect on the level of OFD. Furthermore, a lot of studies examined the effect of voluntary disclosure on performance using different indicators such as market value, stock price, ROA and Tobin's *Q* (e.g. Jullobol and Sartmool, 2013; Al Shaar *et al.*, 2015; Al-Mohannadi and Syam, 2007). These studies argued that there is a positive relationship between reporting in general and performance. However, there are limited studies on the association between OFD and firms' performance.

Due to the divergence of the GCC countries in non-oil economies, their interrelatedness with foreign markets, and the increasing integration of the GCC countries through the adoption of international standards, these countries have become more attentive to the factors that attract investors including: transparent regulations, corporate governance and

technological infrastructure (Al-Sartawi, 2013, 2015). Consequently, this study would be an important contribution in filling the gap in the current literature by determining whether there is an association between OFD of the companies that are listed in the GCC Bourses and its performance measured by market value added (MVA), net profit margin (NPM), return on equity (ROE), ROA and earnings per share (EPS).

OFD and firms' performance

3. Methodology

3.1 Sample selection

The empirical study of the current research depends on a sample which consists of all the listed companies in the GCC Bourses for the year 2016. However, the required data were gathered from 274 companies out of 289 companies listed under financial sector. Table I shows the sample distribution according to country and industry (banks, insurance and investment) as the structure of the financial sector and its regulation in the GCC are the same and, moreover, it is the largest sector due to the size of funds invested in it.

Some of the companies were excluded from the study because their website was not functioning and while some of them did not have an investor relations section on their websites. In addition, few companies were suspended from trading in the bourse. Table II shows reasons of excluding companies from the sample selected. Moreover, the researcher used the companies' websites and the GCC Bourses websites to gather the data required for this study.

3.2 Measuring OFD and performance indicators

For the current study, the researcher has adopted a checklist used by Al-Sartawi (2016) consisting of 90 items (71 items for content and 19 items for presentation) to measure the OFD. Therefore, the OFD index is based on binary, that is, if a company reported an item which was included in the checklist it received a score of 1 and if the company did not report an item, a score of 0 was allocated. Accordingly, the index for each company was calculated

Industry	GCC countries														^a Sample	%
	KSA		UAE		OMA		QAT		BAH		KUW		TOTAL			
	IN	EX	IN	EX	IN	EX	IN	EX	IN	EX	IN	EX	IN	EX		
Banks	12	0	36	0	8	0	8	0	7	0	9	0	80	0	80	29
Insurance	35	1	35	0	5	0	5	0	5	0	7	0	92	1	91	33
Investment	7	1	21	0	13	0	4	0	11	2	57	7	113	10	103	38
Total	54	2	92	0	26	0	17	0	23	2	73	7	285	11		
^a Per country	52		92		26		17		21		66		274			100
Note: ^a Included – Excluded																

Note: ^aIncluded – Excluded

Table I.
Sample distribution according to country and industry

Item	Number	Percentage
Listed companies in GCC Bourses under financial sector	285	100
Suspended from GCC Bourses	5	2
Company's website was not working	2	0.7
The company has no website	1	0.4
No investors relations section in the company's website	1	0.4
Closed companies	2	0.7
Total companies included in the sample	274	96

Table II.
Reasons of excluded companies

by dividing the total earned scores of the company by the total maximum possible scores appropriate for the company. Below formula shows the way of calculating the OFD index:

$$OFDi = \sum_{i=1}^n \frac{di}{n}$$

where di : disclosed item equals 1 if the company meets the checklist item and 0 otherwise. n : equals maximum score each company can obtain.

The main objective of this study is to measure whether there is a positive association between OFD and the performance indicators. Accordingly, the following five indicators were used:

- (1) MVA is the difference between a company's market value and the capital that bondholders and shareholders have contributed to it. MVA reflects management's performance and calculated as:

$$\text{Market value added} = \text{Company's market value} - \text{invested capital.}$$

- (2) NPM is the ratio of net profits to revenues for a company or business segment. Typically expressed as a percentage, NPMs show how much of each dollar collected by a company as revenue translates into profit. The equation to calculate NPM is as follows:

$$\text{Net margin} = \text{Net profit} / \text{Revenue.}$$

- (3) ROE: ROE is the amount of net income returned as a percentage of shareholders equity. ROE measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. ROE is expressed as a percentage and calculated as follows:

$$\text{Return on equity} = \text{Net income} / \text{Shareholder's equity.}$$

- (4) ROA: This ratio indicates how profitable a company is relative to its total assets. The ROA ratio illustrates how well management is employing the company's total assets to make a profit. The ROA ratio is calculated by comparing net income to average total assets, and is expressed as a percentage and calculated as follows:

$$\text{Return on equity} = \text{Net income} / \text{Average total assets.}$$

- (5) EPS: is the portion of a company's profit allocated to each outstanding share of common stock. EPS serves as an indicator of a company's profitability (Al-Sartawi, 2013) and calculated as follows:

$$\text{Earnings per share} = (\text{Net income} - \text{dividends on preferred stock}) / \text{Average outstanding shares.}$$

3.3 Hypotheses

Many studies have been conducted regarding the association between voluntary disclosure and firms' performance. Majority of the studies revealed that a positive relationship between voluntary disclosure and performance, measured by ROA and Tobin's Q (e.g. Chau and Gray, 2002; Hossain and Hammami, 2009). On the other hand, some of the previous studies found no relation between them such as Camfferman and Cooke (2002). OFD as a part of voluntary disclosure indicates the firm quality and value to the investors. This indication will reduce the information asymmetry between investors and preparers of financial

information, lowering the agency cost and well directing the future decisions which improve OFD and firms' performance the firms' performance in the long run.

However, based on the review of the relevant literature the researchers found that there are negligible studies in GCC that examine the performance in relation to OFD. Accordingly, this study will investigate the association between OFD and firms' performance in the GCC listed companies. Based on the empirical and theoretical literature, this paper anticipates that companies with high level of OFD will have a good level of performance. Therefore, this paper establishes the main hypothesis and the sub-hypotheses as follows:

H1. There is a positive association between OFD and the firms' performance of companies listed in GCC Bourses.

H1a. There is a positive association between OFD and MVA of the companies listed in GCC Bourses.

H1b. There is a positive association between OFD and NPM of the companies listed in GCC Bourses.

H1c. There is a positive association between OFD and ROE of the companies listed in GCC Bourses.

H1d. There is a positive association between OFD and ROA of the companies listed in GCC Bourses.

H1e. There is a positive association between OFD and EPS of the companies listed in GCC Bourses.

3.4 Regression models

To test the hypotheses, the following regression models were developed using OFD as an independent variable and control variables such as company age, size, industry type and financial leverage.

Model 1:

$$MVA_i = \beta_0 + \beta_1 OFD_i + \beta_2 LFSZ_i + \beta_3 LVG_i + \beta_4 AGE_i + \sum_{k=1}^{n=3} \beta_k INDT_{i,k} + \varepsilon_i$$

Model 2:

$$NPM_i = \beta_0 + \beta_1 OFD_i + \beta_2 LFSZ_i + \beta_3 LVG_i + \beta_4 AGE_i + \sum_{k=1}^{n=3} \beta_k INDT_{i,k} + \varepsilon_i$$

Model 3:

$$ROE_i = \beta_0 + \beta_1 OFD_i + \beta_2 LFSZ_i + \beta_3 LVG_i + \beta_4 AGE_i + \sum_{k=1}^{n=3} \beta_k INDT_{i,k} + \varepsilon_i$$

Model 4:

$$ROA_i = \beta_0 + \beta_1 OFD_i + \beta_2 LFSZ_i + \beta_3 LVG_i + \beta_4 AGE_i + \sum_{k=1}^{n=3} \beta_k INDT_{i,k} + \varepsilon_i$$

Model 5:

$$EPS_i = \beta_0 + \beta_1 OFD_i + \beta_2 LFSZ_i + \beta_3 LVG_i + \beta_4 AGE_i + \sum_{k=1}^{n=3} \beta_k INDT_{i,k} + \varepsilon_i$$

The explanation for the variables is given in Table III.

Table III.
Research variables

Code	Variable name	Operationalization
<i>Dependent variable</i>		
MVA	Market value added	Company's market value – invested capital
NPM	Net profit margin%	Net profit/Revenue
ROE	Return on equity %	Net income/Shareholder's equity
ROA	Return on assets %	Net income/Average total assets
EPS	Earnings per share	(Net income – dividends on preferred stock)/Average outstanding shares
<i>Independent variables – online financial disclosure</i>		
OFD	Online financial disclosure %	Total scored items by the company/Total maximum scores
<i>Control variables</i>		
LFSZ	Firm size	Natural logarithm of total assets
LVG	Leverage	Total liabilities/Total assets
AGE	Firm age	The difference between the establishing date of the firm and the report date (2016)
INDT	Industry type	
	Banks	This is a binary wherein 1 means that the company is banks and 0 otherwise
	Insurance	This is a binary wherein 1 means that the company is insurance and 0 otherwise
	Investment	This is a binary wherein 1 means that the company is investment and 0 otherwise
ε_i	Error	

4. Data analysis

4.1 Descriptive statistics

As mentioned earlier, the level of OFD is measured by dividing the total score of every company by the maximum probable scores. In general, the maximum score of OFD level was 90 items where the content dimension contributed 71 items, while the presentation dimension contributed 19 items. The results shown in Table IV suggest that the level of OFD (dimension of content and dimension of presentation) differed between GCC countries and between industry types. The highest level of total OFD was 84 percent by Qatari companies and the lowest one was 70 percent by Bahraini companies. Also, the banks achieved the highest level of total OFD which was 77 percent and the lowest one was 75 percent by investment companies. On the other hand, the results show that the overall level of OFD was 77 percent which is considered as a good level of reporting by the GCC companies.

Table IV.
Level of online
financial disclosure

	<i>n</i>	Content		Presentation		OFD	
		Mean	SD	Mean	SD	Mean	SD
<i>Country</i>							
KSA	52	0.75	0.17	0.77	0.10	0.76	0.15
Kuwait	66	0.72	0.22	0.76	0.18	0.73	0.20
Bahrain	21	0.69	0.20	0.72	0.18	0.70	0.20
Qatar	17	0.84	0.089	0.84	0.10	0.84	0.08
Oman	26	0.75	0.21	0.81	0.17	0.76	0.20
UAE	92	0.80	0.14	0.79	0.14	0.80	0.14
Total	274	0.76	0.18	0.78	0.15	0.77	0.17
<i>Industry</i>							
Banks	80	0.76	0.17	0.79	0.14	0.77	0.16
Insurance	91	0.77	0.19	0.78	0.13	0.77	0.17
Investment	103	0.75	0.19	0.77	0.18	0.75	0.18
Total	274	0.76	0.18	0.78	0.15	0.77	0.17

Additionally, the descriptive statistics for dependent and control variables in Table V show that the level of MVA is high and ranges from −2,540 million to 7,965 million with a mean of 250.47 million, indicating that GCC firms are attractive to investors and somehow, they have strong leadership and governance. Moreover, the NPM was between −0.71 and 0.80 with a mean of 0.095, the ROE ranges from −0.90 to 0.89 with a mean of −0.1654, the ROA ranges from −0.54 to 0.72, with a mean of 0.07 and the average of EPS was 24.3.

The mean of firm size, i.e. total assets, was 1.20 million, with a minimum of 2.837 million and a maximum 168.1 million. The normality distributions of total assets were skewed. Hence, natural logarithm was used in the regression analysis to reduce skewness and bring the distribution of the variables nearer to normality.

Moreover, the mean leverage for the firms was almost 63.5 percent with a minimum 0.12 percent, indicating firms with somewhat high debts and a maximum of 96 percent, signifying very high debts. Firm age ranges from 2 to 61 with a mean of 22.6.

4.2 Validity

With regards to the validity test, the data were checked for multicollinearity which involved conducting the variance inflation factor (VIF). The VIF scores are reported in Table VI, indicating that no score exceeds 10 for any variable in the model. It was, therefore, concluded that no problems were found with regards to collinearity.

Additionally, as reported in Table VII, the Durbin-Watson (D-W) value of the models was 1.698 for model 1 which is related to the MVA, 2.003 for model 2 which is related to the

Variable	<i>n</i>	Min.	Max.	Mean	SD
MVA ^a	274	−2,540	7,965	250.47	1042.516
NPM	274	−0.71	0.80	0.0948	0.26456
ROE	274	−0.90	0.89	0.1654	0.34210
ROA	274	−0.54	0.72	0.0669	0.15761
EPS	274	−1051.07	1993.51	24.2952	176.88798
Assets	274	20,297	1,681,844,040	1.20E8	2.837E8
Leverage	274	0.12	0.96	0.6345	0.21114
Age	274	2	61	22.56	15.158

Note: ^aMillions

Table V.
Descriptive statistics
for dependent and
control variables

Model	Tolerance	VIF
OFD	0.961	1.041
Size	0.754	1.326
Leverage	0.892	1.121
Age	0.901	1.110
Industry type	0.803	1.245

Table VI.
Collinearity
statistics test

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	SE of the estimate	Durbin-Watson
1	0.216	0.046	0.029	1,037.109	1.698
2	0.482	0.232	0.218	0.23398	2.003
3	0.538	0.290	0.276	0.29100	1.444
4	0.469	0.220	0.206	0.14048	1.357
5	0.270	0.073	0.055	171.91594	2.029

Table VII.
Autocorrelation test

NPM, 1.444 for model 3 which is related to ROE, 1.357 for model 4 which is related to the ROA and 2.029 for model 5 which is related to the EPS. As a result, we can conclude that there is no autocorrelation problem in models 2 and 5 because the D-W was in its statistical range of 2 and more which indicates a negative autocorrelation. On the other hand, there is a positive autocorrelation in models 1, 3 and 4 because the D-W values of the models were beyond the *d*-statistic range which is less than the minimal range. To overcome this problem, log 1 has to be considered when testing the models of the study.

4.3 Testing hypotheses

Table VIII reports the findings of the regression analysis of the study models. These findings show that *F*-ratios for all five models are more than the calculated one and that the probability is $p < 0.05$. This finding supports the significance of the regression models statistically.

H1a states a positive association between OFD and the MVA of companies listed in GCC Bourses. The results indicate that there is significant positive association between OFD and MVA. Therefore, this hypothesis is accepted. From the point of view of the researcher OFD will overcome the asymmetry problem, which will enhance the predictions and the decision-making quality of the investors, therefore the demand on firms' stock will increase and the stock price as a result will increase too. This result is consistent with Al Shaar *et al.* (2015). Furthermore, the findings revealed a positive and significant association between MVA and industry type and firm age.

H1b states a positive association between OFD and the NPM of companies listed in GCC Bourses. The results indicate that there is a weak association between OFD and NPM. Therefore, this hypothesis is not widely supported. This result is consistent with

	OFD	Size	Lev.	Age	In. type	(Constant)	R^2	Adjusted R^2	F -statistics	Prob. (F)
<i>MVA</i>										
Coeff.	305.340	3.017	252.684	4.658	86.448	257.464	0.046	0.029	0.028	0.025
SE	212.747	24.906	314.736	2.447	48.239	316.561				
<i>t</i> -statistics	1.796	0.216	1.431	1.904	1.792	0.813				
Sig.	0.089*	0.829	0.153	0.058*	0.074*	0.417				
<i>NPM</i>										
Coeff.	0.120	0.024	0.071	0.003	0.073	0.123	0.232	0.218	16.203	0.000
SE	0.086	0.006	0.071	0.001	0.019	0.127				
<i>t</i> -statistics	1.404	4.352	0.995	2.584	3.774	0.965				
Sig.	0.161	0.000	0.321	0.010	0.000	0.335				
<i>ROE</i>										
Coeff.	0.123	0.050	0.031	0.003	0.043	0.526	0.290	0.276	21.857	0.000
SE	0.106	0.007	0.088	0.001	0.024	0.158				
<i>t</i> -statistics	1.894	7.139	0.355	2.510	1.784	3.324				
Sig.	0.079*	0.000***	0.723	0.013**	0.076*	0.001				
<i>ROA</i>										
Coeff.	0.088	0.024	0.013	0.000	0.005	0.379	0.220	0.206	15.125	0.000
SE	0.051	0.003	0.043	0.001	0.012	0.076				
<i>t</i> -statistics	1.712	7.247	0.313	0.329	0.460	4.961				
Sig.	0.088*	0.000***	0.755	0.743	0.646	0.000				
<i>EPS</i>										
Coeff.	28.449	18.110	-43.815	0.887	24.444	-322.530	0.073	0.055	4.204	0.001
SE	62.879	4.128	52.172	0.723	14.258	93.563				
<i>t</i> -statistics	0.452	4.387	-0.840	1.226	1.714	-3.447				
Sig.	0.651	0.000***	0.402	0.221	0.088*	0.001				

Notes: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table VIII.
Regression
analysis models

Al-Mohannadi and Syam (2007). Furthermore, the findings revealed a positive and significant association between NPM and firm size, industry type and firm age.

Nonetheless, the results reported that there is a significant positive association between ROE and ROA and OFD. Thus, *H1c* and *H1d* are supported. Our findings support the notion that managers do not disclose information to justify their compensation packages only, they need to disclose information to attract more investors which will enhance future performance. As proposed by the signaling theory, managers of more profitable companies wish to signal their success to the current and potential investors to attract them and to maintain their positions (Agustina *et al.*, 2017). Therefore, it is expected that companies with larger profits (ROE) and higher performance (ROA) are more likely to disclose more information (Al-Shammari, 2011).

With regards to size, age and type of sector, the findings found a significant association between these firm characteristics and ROE and ROA. This study also failed to find an association between leverage and ROE and ROA.

Finally, the results of *H1e* report a weak positive association between EPS and OFD but this association was not widely supported in the current study because the *p*-value was more than 10 percent. On the other hand, the study found a strong association between firm size and industry type and EPS.

Consequently, we can summarize that the level of OFD by the GCC companies has a positive association with its performance. Nevertheless, this relation was not supported in two of five models – NPM and EPS – in this study. This result is consistent with Al-Mohannadi and Syam (2007); Al-Shammari (2011); Aqel (2014) and Al Shaar *et al.* (2015).

5. Conclusion and recommendations

OFD as a disclosure tool is aimed at decreasing the information asymmetry of any firm (Debreceeny *et al.*, 2002) and at the same time it considered as a key component in enhancing firms' performance by lowering agency costs. Accordingly, the current research shed the light on the association between OFD and performance of the listed companies in GCC Bourses. Five indicators were used to express firms' performance: MVA, NPM, ROE, ROA and EPS. Also, the OFD-level measurement depended on a checklist used by Al-Sartawi (2016). Based on the results, the level of OFD – 77 percent – has a significant impact on three of five performance indicators: MVA, ROE and ROA. Consequently, it can be concluded that the listed companies in the GCC countries bourses present a good level of OFD (more than 50 percent) according to the Wallace (1988) index disclosure classification and this level positively impacts performance.

From a theoretical perspective, this current research extends the previous studies conducted in the GCC countries by focusing on two dimensions, namely, content and presentation of OFD, using wider check list, using a larger sample (274) and by using five indicators for performance as dependent variables. As a result, this paper is important because as it contributes to the empirical evidence and the literature regarding the association between the level of OFD and firms' performance in developing countries, particularly in the GCC countries.

From a practical perspective, this paper provides a guideline to stakeholders such as investors, users and prepares of financial reports, regulators and researchers in the GCC countries, regarding the importance and benefits of OFD in enhancing firms' performance and in maintaining the rights of users and shareholders. As concluded, the level of OFD impacts the following three performance indicators: MVA, ROE and ROA. Firms need to consider increasing their disclosure online as this paper signifies that firms with high level of OFD help stakeholders in improving their decision-making quality. Therefore, more investors will be attracted to invest in such firms, thus improving performance.

Consequently, the research recommends that the GCC Bourses should develop a formal guideline for OFD to create harmony in disclosing information through internet and to

enhance the content and the presentation of financial and non-financial information disclosed in companies' websites.

However, the research was conducted using the financial sector companies in GCC countries, thus, the sample size is small compared to the total listed companies. In addition, there are few companies that do not have a website. Also, some of the companies' websites were not functioning and few websites did not contain investors' relations section and hence, the information was not possibly provided. Therefore, the study findings may not be generalizable.

Moreover, a study by Hossin *et al.* (2012) had discovered that some companies' characteristics such as profitability, complexity, size and age influenced voluntary disclosure using internet. Therefore, the researcher suggests investigating whether such characteristics would influence the current level of OFD performed by GCC companies. Furthermore, the researcher suggests having a study that investigates the association between OFD and audit quality. Future research could also incorporate sub-hypotheses for the OFD, where one sub-hypothesis tests the content aspect of the OFD and the other sub-hypothesis tests the presentation aspect of the OFD.

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