The Measurements of Firm Performance’s Dimensions

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Abstract

The main purpose of this study was to review the measurements that are related to the corporate governance. A close look at the literature of corporate governance and firm performance reveals that different measures have been used by the researchers to measure the performance. They classified those measurements into accounting-based and market-based indicators. Performance measurement has great significance in effective management of an organization and in the enhancement of the processes since only measurable things is manageable. Hence, the enhancement of the organizational performance requires some measurements to determine the impact of the level of organizational effectiveness upon business performance. This study can act as a reference to the researchers who are concerned with the firm performance measurements.

Keywords: Performance, Accounting-based measurement, Market-based measurement
1. Introduction

Nowadays, the performance of companies is the first to be evaluated by investors around the world as currently, the world has become smaller in a sense that businesses can be conducted anywhere. Globalization facilitates business activities and high performance and in eliminating the barriers existing in corporate trade and financial investment, businesses can have a wider opportunity to grow. In addition, with the highest spread of generation in technology, people who are interested and concerned in achieving their jobs from anywhere are encouraged to look for any company around the world that shows high performance for investment. Thus, the performance of the company is the most important to encourage the people to come to it. And therefore, people who are responsible for running firms must improve firm performance through new plan and procedures to update its operations and transactions during its life cycle. Regarding to the importance of this subject of performance of firms, this study considers the effect of performance in the business environment in consistent to some measurement such as accounting-based measurement and market-based measurement as discussed in the coming sections.

2. Firm Performance Definitions

Performance measurement refers to the process of measuring the action’s efficiency and effectiveness (Neely, Gregory & Platts, 1995). Performance measurement is the transference of the complex reality of performance in organized symbols that can be related and relayed under the same circumstances (Lebas, 1995). In the current business management, performance measurement is considered to be in a more critical role compared to quantification and accounting (Koufopoulos, Zombos & Argyropoulou, 2008). This is consistent with Bititci, Carrie and McDevitt (1997) who described performance management as a process wherein the organization manages its performance to match its corporate and functional strategies and objectives.

Additionally, the firm’s value can be described as the benefits stemming from the firm’s shares by the shareholders (Rouf, 2011). The company’s performance can be viewed from the financial statement reported by the company. Consequently, a good performing company will reinforce management for quality disclosure (Herly & Sisnuhadi, 2011).

2.1 Firm Performance Importance

Performance measurement is critical for effective management of any firm (Demirbag, Tatoglu, Tekinus and Zaim, 2006). The process improvement is not possible without measuring the outcomes. Hence, organizational performance improvement requires measurements to identify the level to which the use of organizational resources impact business performance (Gadenne and Sharma, 2002; Madu, Aheto, Kuei and Winokur, 1996).

The firm’s success is basically explained by its performance over a certain period of time. Researchers have extended efforts to determine measures for the concept of performance as a crucial notion. Finding a measurement for the performance of the firm enables the comparison of performances over different time periods. Nevertheless, no specific
measurement with the ability to measure every performance aspect has been proposed to date (Snow & Hrebiniak, 1980).

Performance of a firm is significantly impacted by corporate governance and if the functions are appropriately established for the corporate governance system, it attracts investment and helps in maximizing the company’s funds, reinforcing the company’s pillars and this will result in the expected increase in firm performance. In other words, an effective corporate governance protects against probable financial challenges and facilitates remarkable growth and therefore, corporate governance plays a key role in the growth of the firm performance. Currently the impact of corporate governance upon the general firm well-being has been examined (Ehikioya, 2009).

2.2 Firm Performance Measurement

Measurement of performance can offer significant invaluable information to allow management’s monitoring of performance, report progress, improve motivation and communication and pinpoint problems (Waggoner, Neely & Kennerley, 1999). Accordingly, it is to the firm’s best interest to evaluate its performance. Nevertheless, this is a management area characterized by lack of consistency as to what constitutes organizational performance. According to Cameron and Whetten (1983), the importance of business performance in strategic management can be categorized into three dimensions; theoretical dimension, empirical dimension and managerial dimension.

Moreover, performance measurement is critical in performance management. Through the measurement, people can create simplified numerical concepts from complex reality for its easy communication and action (Lebas, 1995). The simplification of this complex reality is conducted through the measurement of the prerequisites of successful management. On a similar note, Bititci et al. (1997) contended that performance measurement is at the core of the performance management process and it is of significance to the effective and efficient workings of performance management.

In theory, the concept of performance forms the core of strategic management and empirically, most strategy studies make use of the construct of business performance in their attempt to examine various strategy content and process issues. In management, the significance of performance is clear through the many prescriptions provided for performance enhancement. Research dedicated to governance structures relationship with financial performance was highly dependent on accounting-based indicators. Some studies have adopted individual measurements (accounting-based or market-based measurements).

Although there are widely measurements of performance with many which it related to much fields but we tried to execute this measurement regarding to corporate governance. Based on our reading of much article that interconnection to corporate governance that we will provide almost of measurements of firm performance form different perspective as it explains follows. The countless number of ways has been brought forward to measure financial performance and among them are: measurement of performance as the level of Return on Assets (ROA), Return on Equity (ROE), Tobin-Q, Profit Margin (PM), Earnings Per Share (EPS), Divided
Yield (DY), Price-Earnings Ratio (PE), Return on Sales (ROS), Expense to Assets (ETA), Cash to Assets (CTA), Sales to Assets (STS), Expenses to Sale (ETS), Abnormal returns; annual stock return, (RET), Operating Cash Flow (OCF), Return on Capital Employed (ROCE), Labor productivity (LP), Critical business Return on Asset (CROA), Cost of Capital (COC), Market Value Added (MVA), Operation Profit (OP), Return on Investment (ROI), Market-to-book value (MTBV), Log of market capitalization, LOSS, Growth in Sales (GRO), Stock Repurchases, Sales Per Employee (SPE), Return on revenue (ROR), Output per staff (OPS), Cost Per Service Provided (CPSP) and Cost per Client Served (CCS), Superior to cumulative abnormal returns (CARs), Profit Per Employee (PPE) and Return on Fixed Assets (ROFA) etc. Most of these proposed measures have been utilized by studies regarding governance.

Recently, special attention has been dedicated to determining the corporate governance effectiveness through different measurement of firm performance, one that is related to the production process, namely technical efficiency (e.g. Sheu & Yang, 2005; Bozec & Dia, 2007; Destefanis & Sena, 2007; Lin et al., 2009; Garcia-Sanchez, 2010). This is because the main element of business organization is its operation function which refers to the transformation of inputs into outputs, and wherein efficiency is very significant (Sheu & Yang, 2005).

Along the same line, Hill and Snell (1989) contended that the advantage of making use of technical efficiency is its constitution of accurate measure and the disadvantages of other measures such as financial ratios and Tobin’s Q as firm performance measure; the latter two are very sensitive to the differences among accounting methods/manipulation of accounting profit (Barth, La Mont, Lipton & Spelke, 2005).

In this section will categorize these measurements to two classifications such as accounting based measurement and marketing based measurement as it is explained following:

2.2.1 Accounting-Based Measurements

Accounting-based measurement is generally considered as an effective indicator of the company’s profitability and the business when compared to benchmark rate of return equal to the risk adjusted weighted average cost of capital. The accounting based measurement indicators to the profitability of firms on the short term in the past years such as (ROA), (ROE), (ROS), (PM), (ROI), (OCF), (EPS), (OP), (GRO), (ROCE), (ETA), (CTA), (STS) and others as we will offer below.

The profit measure is criticized for its backward-looking element and its partial estimation of future events in terms of depreciation and amortization. The rate of profit is measured by the accountant, limited by standards established by the profession and is hence impacted by the accounting practices like the various methods employed for the assessment of tangible and intangible assets (Kapopoulos & Lazaretou, 2007).

Also, ROA, as an accounting-based measurement, gauges the operating and financial performance of the firm (Klapper & Love, 2002). The measurement is such that the higher the ROA, the effective is the use of assets to the advantage of shareholders (Haniffa &
Huduib, 2006). Higher ROA also reflects the company’s effective use of its assets in serving the economic interests of its shareholders (Ibrahim & AbdulSamad, 2011).

According to Hutchinson and Gul (2004) and Mashayekhi and Bazazb (2008), accounting-based performance measures present the management actions outcome and are hence preferred over market-based measures when the relationship between corporate governance and firm performance is investigated. As a result, a company showing a positive performance through ROA, it indicates its achievement of prior planned high performance (Nuryanah & Islam, 2011). Contrastingly, a negative person indicates failure of the planned high performance which requires revision of plans to enhance short-term performance. The negative performance results in investors’ (local and foreign) loss. The company therefore has to update its objectives from time to time if it is desirous of competing in the market place. The rest of the section provides extensive summaries of all accounting-based measurements tested by researchers.

Table 1. Summary of Accounting-Based Measurements

<table>
<thead>
<tr>
<th>Factors</th>
<th>Authors</th>
<th>How to measure a factor</th>
</tr>
</thead>
</table>

**Return on Equity (ROE)**


**Return on Sales**

Geletkanycz and Boyd (2011), Ghahroudi (2011), Bøhren and Strøm (2010), Muravyev, Talavera, Bilyk and Grechaniuk (2010), By Profit after tax / Total equity shares in issue
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Formula</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit Margin</td>
<td>By the benefit (return) of an investment is divided by the cost of the investment.</td>
<td>Adjaoud, Zeghal and Andaleeb (2007).</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>It can be calculated by operating income before depreciation to total asset</td>
<td>Harjoto and Jo.</td>
</tr>
<tr>
<td>Growth in Sales</td>
<td>It can be calculated by dividing the difference between current sales and previous year’s sales volumes by previous year’s</td>
<td>Herri (2011), Firth, Fung and Rui (2006), Brown and Caylor (2004).</td>
</tr>
<tr>
<td>Metric</td>
<td>Authors</td>
<td>Formula</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Return on Capital Employed (ROCE)</td>
<td>Uadiale (2010), Filatotchev, Lien and Piesse (2005).</td>
<td>It can analyze by the profit before tax / total issued capital.</td>
</tr>
<tr>
<td>Expense to Assets (ETA)</td>
<td>Najid and Abdul Rahman (2011).</td>
<td>It can be calculated by Total expenses / Total assets.</td>
</tr>
<tr>
<td>Cash to Assets (CTA)</td>
<td>Najid and Abdul Rahman (2011).</td>
<td>It can be calculated by Cash / Total assets.</td>
</tr>
<tr>
<td>Sales to Assets (STS)</td>
<td>Najid and Abdul Rahman (2011).</td>
<td>It can calculate by Total Sales / Total assets.</td>
</tr>
<tr>
<td>Expense to Sale (ETS)</td>
<td>Najid and Abdul Rahman (2011).</td>
<td>It can be designed by Total Expenses / Total Sales.</td>
</tr>
<tr>
<td>Labor Productivity (LP)</td>
<td>Muravyev, Talavera, Bilyk and Grechaniuk (2010), Fidrmuc and Fidrmuc (2007) and Sheu and Yang (2005).</td>
<td>It can be measured by the ratio of sales to the number of workers employed.</td>
</tr>
<tr>
<td>Cost of Capital (COC)</td>
<td>Kim and Yoon (2007).</td>
<td>It can be calculated by interest expense + cash dividends / revenue.</td>
</tr>
<tr>
<td>LOSS</td>
<td>Firth, Fung and Rui (2006).</td>
<td>It can calculate by the net operating loss.</td>
</tr>
<tr>
<td>Profit</td>
<td>Fidrmuc and Fidrmuc 2007.</td>
<td>This is factor</td>
</tr>
<tr>
<td>Metric</td>
<td>Calculation</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>per employee (PPE)</td>
<td>can calculate by the total sales less the costs over the total number of employees</td>
<td></td>
</tr>
<tr>
<td>Return on Fixed Assets (ROFA)</td>
<td>Fidrmuc and Fidrmuc 2007. This is factor can calculate by the total sales less the total costs over the fixed assets.</td>
<td></td>
</tr>
</tbody>
</table>
Based on Figure 1, shows the ratio of highest measure of account-based measurements examined with corporate governance. The first account-based measurement is return on assets (ROA) with 46% followed by Return on Equity (ROE) with 27% of total ratio, and Profit Margin (PM) with 8%. And hence, ROA is uniquely measurement of the profit before tax, divided by total assets and it is easy to obtain from the firm’s annual report.

2.2.2 Market-Based Measurements

The second type of measurement is the market-based measurement which is categorized as long term like Tobin’s Q, (MVA), (MTBV), (RET), (DY) and among others as discussed in the following paragraphs. The market-based measurement is characterized by its forward-looking aspect and its reflection of the expectations of the shareholders concerning the firm’s future performance, which has its basis on previous or current performance (Wahla, ShahSyed & Hussain, 2012; Shan & McIver Ron, 2011; & Ganguli & Agrawal, 2009).

Tobin’s Q refers to a traditional measure of expected long-run firm performance (Bozec, Dia & Bozec, 2010). The employment of market value of equity may present the firm’s future growth opportunities which could stem from factors exogenous to managerial decisions and this is indicated by the companies level (Shan & McIver, 2011; Demsetz & Villalonga, 2001). In addition, a high Q ratio shows success in the a way that the firm has leveraged its investment to develop the company that is valued more in terms of its market-value compared to its book-value (Kapopoulos & Lazaretou, 2007).

Moreover, market-based expectations for firm performance may result in management incentive to modify their holdings on the basis of their expectations of the future performance.
of the firm (Sánchez-Ballesta & García-Meca, 2007). As a result, when the company’s market-based performance is higher than the results of Tobin’s Q, this indicates that the company has succeeded in achieving its planned high performance (Nuryanah & Islam, 2011) but if it is less than Tobin’s Q, then the company needs to revise its plans to enhance its short-term performance. The negative performance leads to investor’s loss (local and foreign) and hence, it is important for the company to update its objectives from time to time if it is desirous of competing in the market place.

Now, we provide instances of studies conducted all over the world dedicated to the study of corporate governance dimensions relation with firm performance.

### Table 3. Summary of Marketing-Based Measurements

<table>
<thead>
<tr>
<th>Factors</th>
<th>Authors</th>
<th>How to measure a variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Ratio</td>
<td>Authors and Dates</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Market Value Added (MVA)</strong></td>
<td>Kula (2005) and Abdullah, Shah and Hassan (2008).</td>
<td>It can be calculated by the difference between the Market Value and book value of Equity.</td>
</tr>
<tr>
<td><strong>Price-Earnings Ratio (PE)</strong></td>
<td>Valenti, Luce and Mayfield (2011), Ehikioya (2009), Sanda, Mikailu and Garba (2005).</td>
<td>It can measure by measured as the ratio of price per share to earnings per share.</td>
</tr>
<tr>
<td><strong>Log of Market Capitalization</strong></td>
<td>Mollah and Talukdar (2007).</td>
<td>-----------</td>
</tr>
<tr>
<td><strong>Stock Repurchases</strong></td>
<td>Brown and Caylor (2004).</td>
<td>It can calculate by (Purchases of Common and Preferred Stock</td>
</tr>
</tbody>
</table>
Superior to Cumulative Abnormal Returns (CARs) & Braun and Sharma (2007). & It can calculate by the long-term abnormal stock returns.

Table 4. The Market-Based Measurement

<table>
<thead>
<tr>
<th>Measure</th>
<th>Code</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobin-Q</td>
<td></td>
<td>74</td>
</tr>
<tr>
<td>Market Value Added (MVA)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Market-to-Book Value (MTBV)</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Abnormal Returns; Annual stock return, (RET)</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Dividend Yield (DY)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Price-Earnings Ratio (PE)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Log of Market Capitalization</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Stock Repurchases</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Superior to Cumulative Abnormal Returns (CARs)</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
Based on Figure 2, the ratio of highest measure of market-based measurements examined with corporate governance is displayed by Tobin-Q with 78% followed by Market-to-Book Value (MTBV) with 7% of total ratio. Abnormal Returns and Annual stock return (RET) displayed 4%. This indicates that Tobin’s Q is widely used to measure the ratio of the market capitalization plus total debt divided by total asset of the company. This measure is fixable in obtaining the source of company from Data stream.

2.2.3 Others Measurements

Some measurements cannot capitalize under either accounting or marketing measurement such as output per staff, cost per service provided and cost per client served; these factors were tested by Ii, Kankpang and Okonkwo (2012).

Based on the above provision of the advantages of accounting and market based measurements, there are some distinct differences between the two. Demsetz and Villalonga (2001) highlighted two crucial aspects where two measures differ; first, accounting profit ratios are backwards looking measures (Shan & McIver, 2011), whereas Tobin’s Q is described as a forward-looking measure of firm performance. In this situation, accounting profit ratios are impacted by accounting practices and they stress on management outcome. Tobin’s Q also presents the investors assigned value to the firm’s tangible and intangible assets on the basis of predicted revenue and streams of costs.
The second difference lies in the actual measuring performance. Accounting profit measures are often employed by accountants limited by accounting standards and accountability. The Tobin’s Q measure is frequently used by investors limited by their perceptions (acumen, optimism and pessimism). Tobin’s Q is favored by several economists who are better informed of the market constraints and not the accounting constraints (Demsetz & Villalonga, 2001).

In theory, researchers revealed that the accounting based measurements like ROA, ROE, profit margin and others are used for the short-term performance of the firm while the market-based performance of the firm is gauged through Tobin’s Q as a representation of future long-term performance. Therefore, the integration between the two provides a clear picture of the firm. Despite the widely used aspect of the measurements, results are still inconclusive. While some found a positive relationship between corporate governance and firm performance through accounting and market-based measurement, others revealed a negative relationship between corporate governance and firm performance.

3. Conclusion

The current performance of companies is the first to be evaluated by investors all over the globe. Currently, the world has become smaller in terms of the opportunities to conduct business anywhere around the world. Globalization has facilitated business high performance as economic globalization helps people the world over. By eliminating the barriers to corporate trade and financial investments, development and growth are realized and better opportunities can be paved. Performance measurement is very crucial for the organization’s effective management and enhancement of the process is impossible without outcome measurement. Hence, organizational performance requires measures to identify the effect of organizational recourses upon business performance.

This study is unique to offer all measures to study the relationship between corporate governance and firm performance. It is the first of its kind to conduct a review of all measures of firm performance. We dedicate our effort to conduct a review of the majority of studies studying all the measurements of firm performance with corporate governance dated from 2000 to 2012.

This study suggests that future research should use a combination measure of the firm performance that both accounting and market based measures to accurately measure the firm performance. In fact, the accounting –based measure can reflect the past performance of the company while the market-based indicators help to anticipate the future performance.

Moreover, although there are many measurements for firm performance as we mentioned above, some have been widely used such as Return on Assets (ROA), Return on Equity (ROE), Return on Sales (ROS), Profit Margin (PM), Earnings per Share (EPS), Tobin-Q, Market Value Added (MVA) and Market-to-Book Value (MTBV), while others are not widely used. It is, therefore, recommended that future researchers should use other measures such as Operation Profit (OP), Growth in Sales (GRO), Return on Capital Employed (ROCE), Expense to Assets (ETA), Cash to Assets (CTA), Cost of Capital (COC), Return on Revenue
(ROR), Return on Fixed Assets (ROFA), Dividend Yield (DY), Stock Repurchases and others to measure the firm performance.

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