Audit Committee Characteristics and Profitability: A Case of Listed Companies at Dar es Salaam Stock Exchange

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Abstract
The main objective of this study was to examine the influence of Audit Committee (AC) characteristics namely AC financial expertise and AC size on the profitability of listed companies at Dar es Salaam Stock Exchange (DSE). This was an explanatory study using survey design and was guided by the agency theory. Random sampling method was used to get 14 listed companies from the population of 28 listed companies at DSE. An unbalanced panel of annual quantitative secondary data from the selected companies covering eleven years from 2008 to 2018 was used. The Random Effects regression estimation model was used and the findings showed that AC financial expertise had positive but insignificant influence on the profitability (ROA) of listed companies at DSE, while AC size had a significant negative influence on ROA. Further researches on the optimal AC size that positively enhances profitability of a listed company at DSE are recommended.

Keywords: DSE, Stock Exchange, Audit, Profitability.

I. Introduction
One of the sources of government revenue includes corporation taxes, which are collected from various companies, including the ones which are listed at Dar es Salaam Stock Exchange (DSE). Corporation taxes are paid annually and are computed based on a statutory percentage rate (URT, 2019) on the annual taxable profits reported in a company’s annual report. As a listed company is run by non-governmental officers, its management conducts business affairs privately and independently from the government interference, and so are the prepared annual reports required statutorily (Mbawuni, 2019). Herawaty and Solihah (2019) show that managers, as agents of the shareholders in a listed company, manipulate profit figures to their advantage. The profit manipulation problem affects both the government’s efforts to collect taxes and the availability of profits for dividend distribution to shareholders. The problem calls for an independent external audit on behalf of all stakeholders to provide assurance on the reliability of the financial information presented (Kueppers & Sullivan, 2010). However, the efficiency of an external audit is largely dependent on the quality of the existing internal audit work (Argento, Umans, Hákansson, & Johansson, 2018), which is overseen by an audit committee (AC) established within the sitting board of directors (Al-Baidhani, 2016; Miles, 2012). As governments and shareholders rely on the registered external auditors’ opinions (Frey, 2018) on profitability, the AC monitors and controls company financial affairs towards profitability (Abisola & Femi, 2019; Kontogeorgis, 2018). Therefore, this paper focuses on the question: How do AC characteristics influence profitability in a listed company at DSE?

Profitability of a company is measured by various indicators such as the accounting-based or the market-based measures. Some of the different accounting-based measures include Return on Assets (ROA), Return on Investment (ROI) and Return on Capital Employed (ROCE), while the market-based measures include...
Return on Equity (ROE) and Tobin’s Q (Al-Matari, Al-Swidi, & Fadzil, 2014). However, of all such measures, ROA is known to depict internal profitability of a company (Lipunga, 2014) and the effective use of assets in relation to shareholders’ interests (Al-Matari et al., 2014). ROA is also a widely used accounting-based performance measure by various company stakeholders, including shareholders (Şamiloğlu, Öztop, & Kahraman, 2017), to evaluate managerial performance. According to Al-Matari et al. (2014), accounting-based measures are preferred over the market-based ones when evaluating the performance of managers’ observation of corporate governance practices. However, as company financial reporting is done by the managers themselves, who enjoy much control in the daily running of the company affairs, it brings-in the agency problem to shareholders. To address the problem, the agency theory (Ross, 1973) prescribes the use of profit measures on the outcome of an agency contract and the use of an independent board of directors to minimize the agency problem (Miles, 2012).

The board of directors is used to ratify and monitor all important decisions a company undertakes (Fama & Jensen, 1983) to ensure profitability. It is through an AC composed of members from the board of directors (Carcello & Neal, 2000) that matters related to financial reporting are closely monitored. This monitoring process through an AC includes among other things, the verification of the reported profit figures which will be used to compute the corporation taxes payable to the tax authorities. Ojeka, Iyoha, and Obigbemi (2014) and Kipkoech and Rono (2016) confirmed that the presence of an AC has positive effects on the reported profits of a company. It is therefore expected that the presence and the characteristics of an AC in a listed company at DSE will positively influence on profitability for the correct computation of corporation taxes.

Based on the figures of corporation taxes collected by the government from the year 2014 to the 2018 appearing on page 51 of NBS (2018) report, there was an unstable yearly change of the corporation taxes collected from the year 2014 to 2017. If one computes the trend of corporation tax annual changes from 2014 to 2017, the trend is from 42.7% to 5.1% respectively (NBS 2018). This trend is observable, despite the stable constant GDP growth rate of 7.0% from the year 2014 to 2016 and 7.1% in the year 2017 (BOT, 2018). With such a stable GDP growth rate, it is reasonable to expect a relatively similar growth trend for the corporation taxes collected, to ensure more tax collections for the government. As the computation of corporation taxes is based on the taxable profit figures, the need for the verification of correctness of the companies’ taxable figures through an audit process becomes important. Therefore, the main objective of this paper was to examine the influence of AC characteristics on the profitability of listed companies at DSE.

The paper is organized as; part one indicates the introduction of the problem; part two is the review of the relevant theoretical and empirical literatures and the formulation of the tested hypotheses. Part three discusses the methodology used while part four gives the findings and the respective discussions thereof. Finally, part five provides the conclusion and recommendations from the study findings.

**ii. Literature Review**

This study is informed by the agency theory. The agency theory (Ross, 1973) elaborates the existence of a principal and agent relationship in a company set-up. In practice, the theory suggests a company as a collection of contracts, which are overseen through an agency relationship between shareholders and managers of the company concerned (Jensen & Meckling, 1976). The theory reveals that the relationship has a potential for an agency problem, due to managers pursuing their own interests which are in most cases different from the owners’. To address the agency problem, the theory proposes the use of governance mechanisms such as a board of directors, composed of independent members from the management of the company (Miles, 2012). The main aim of having an independent board of directors is to have an independent oversight body representing shareholders’ interests in all company affairs. The board monitors (Watts & Zimmerman, 1983) and
controls major managerial decisions which will ultimately affect company profitability, as measured by ROA.

Board committees are commonly used to monitor and control managerial decisions (Miles, 2012) on behalf of the board. An Audit Committee (AC) is one of the committees that a board of directors can formulate as an oversight organ to oversee the integrity of the whole financial reporting process and the produced financial reports. The committee so formed, is recommended to be composed of independent and non-executive directors, in order to be able to monitor behaviors of managers (Miles, 2012). The AC characteristics, such as AC size and the financial expertise of the AC members, both contribute to the board’s ability to effectively influence on the correctness of the reported profits in the financial reports (Wan Mohammad, Wasiuzzaman, Morsali, & Zaini, 2018).

The AC size reflects the decision-making power of the committee, based on the number of votes carried by its members. But it also reflects the amount of sitting allowance payable to its members, which affects the company’s profitability. Therefore, the bigger the size of the AC committee the more its influence on the correctness of the reported profits (Lin, Li, & Yang, 2006), but at the same time the more it drains from the company profits. This is because, as the AC convenes meetings regularly to monitor managerial progress on the financial affairs, it helps to emphasize on the managerial use of due diligence and yet the more the sitting allowances payable to its members (Bouaine & Hrichi, 2019), therefore impacting on the available profits to shareholders. This calls for committee members with financial expertise to ensure value-for-money meetings. The committee’s financial expertise contributes to proper financial management oversight, earnings quality and the efficiency of the financial reporting process (Sae-Lima & Jermsrittiparsertb, 2019; Wan Mohammad et al., 2018), based on the AC members’ financial knowledge.

It is from the above arguments, the theory suggests the AC size and AC financial expertise, as the key variables with influence on company’s profitability (ROA). Therefore, it is proposed;

**H1: AC Financial Expertise has negative influence on ROA**

**H2: AC size has negative influence on ROA**

Some relevant empirical studies on the relationship between AC characteristics and financial performance of listed companies were also reviewed. The reviewed studies were conducted in different geographical contexts within and outside the continent of Africa. Ojeka et al. (2014) findings showed that AC financial expertise had significant positive influence on financial performance (measured by ROA, ROE and ROCE), while AC size and AC meetings had both positive but insignificant influences on the financial performance measures. It is noticeable that the study used only the manufacturing sector listed companies at Nigeria Stock exchange for a period of eight years, leaving out other sectors.

Kipkoech and Rono (2016) findings showed that AC financial experience had positive effects on financial performance (measured by ROA), while the AC size had negative effects on the ROA. Both the two AC characteristics had significant effects on ROA. The study period was eight years.

Jerubet, Chepng’eno, and Tenai (2017) found that AC size had positive significant effect on the quality of financial reporting. In contrast, the AC independence was found with significant negative effect on the dependent variable. It is noticeable that the study used data of a one-year period only. The study also used industry dummy as a control variable.

Oroud (2019) findings showed no relationship between AC size and profitability (measured by ROI) but found a significant positive effects of AC number of meetings and profitability. The study also found no significant relationship between AC expertise and profitability. The study covered a period of five years for only the industrial listed companies at Amman Stock Exchange.

Bouaine and Hrichi (2019) found that AC size and AC financial expertise of the listed companies in Paris Stock Exchange had negative but insignificant influence on financial performance (measured by ROE). However, the AC size was found with significant negative influence on financial performance (ROA). The AC financial expertise was found with negative but insignificant
influence on ROA. The study targeted only the non-financial listed companies in Paris Stock Exchange for a nine-year period. Osemene and Fakile (2019) found that AC financial expertise and AC meetings had both positive significant influence on the financial performance (ROE) of listed banks in Nigeria. It is noticeable that the study used five-year data of the listed banks in Nigeria Stock Exchange, leaving out other listed companies from other industries in the stock market.

The findings from Al-Mamun, Yasser, Rahman, Wickramasinghe, and Nathan (2014) revealed that some AC characteristics of a listed company in Malaysia had influence on financial performance (measured by Economic Value-Added (EVA)), while others had not. The AC size was found with significant negative relationship with financial performance, while AC financial expertise was found with positive but insignificant influence on financial performance. Wan Mohammad et al. (2018) found that AC size and AC expertise (among other AC characteristics in the study) explained the likelihood of financial statements to be restated in listed companies of Malaysia. The findings highlighted the importance of the characteristics of an AC to mitigate financial re-statements in a listed company, which exposes on the importance of AC characteristics in a listed company for ensuring stakeholders received correct financial information.

From the above reviewed empirical studies, it is emerging that the debate for the influence of AC characteristics is still inconclusive to date. In most of these studies, there are mainly two AC characteristics that are frequently used, the AC financial expertise and AC size. Furthermore, the above studies analyzed the influence of AC characteristics on financial performance using short data periods, ranging from a one-year period to the highest of nine years. Therefore, to add more insight into the influence the two AC characteristics on profitability, this paper used the two AC characteristics with a longer data range period of eleven years from the year 2008 to 2018 for the companies listed at DSE. Figure 1.0 below summarizes the diagrammatic illustration of the relationship of the variables in the study.

The two control variables, industry dummy and cross-listing dummy, are used to account for other factors that influence on profitability of listed companies. The choice of the two dummy variables was based on the findings of some previous studies on listed companies, like Jerubet et al. (2017) and Lel and Miller (2008) respectively. Jerubet et al. (2017) found that industry dummy had insignificant positive effects on financial performance. For the cross-listing dummy, Lel and Miller (2008) found cross-listing influences positively on corporate governance and eventually company financial performance.

**iii. Methodology**

The research design adopted was an explanatory study that used a survey strategy on the companies that were listed at DSE. This research design is recommended when testing hypotheses to establish causal relationship between variables (Saunders, Lewis, & Thornhill, 2009). The research hypotheses for the study, as stated in the previous section, were tested using the secondary quantitative data of the sampled listed companies. The study aimed to examine the influence of AC characteristics (AC size and AC financial expertise) on the profitability (measured by ROA) of the listed companies at DSE.

The population of the study was 28 listed companies at DSE. The sampling frame comprised of the list of all 28 companies as they
appeared on the DSE website www.dse.co.tz as at 01st December, 2019. Random sampling method was used, based on the Krejcie and Morgan (1970) formula. The resulting sample size was 26 listed companies. However, relevant data for only 14 listed companies (53% of the sample size) was available for analysis. The data was quantitative unbalanced secondary panel data for the period of eleven years between the years 2008 and 2018, and was manually collected from the annual reports of the sampled companies. The secondary data comprised of the annual financial data on profitability and the AC size (i.e. number of AC members) together with the number of AC members with financial expertise as at the year-end. The annual reports were obtained from both the DSE website and the websites of the respective companies concerned, for all the reports within the study period that were made available online.

1.1 Model

This study used the following multiple regression model for data analysis:

\[ \text{ROA}_{it} = \beta_0 + \beta_1 \text{FinExpert}_{it} + \beta_2 \text{ACSize}_{it} + \beta_3 \text{IndDummy}_{it} + \beta_4 \text{CrossList Dummy}_{it} + \epsilon_{it} \]

The variables used in the model are defined with their respective measurements in table 1.0 below:

<table>
<thead>
<tr>
<th>Type of Variable</th>
<th>Variable Name</th>
<th>Variable Measurement</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td>Return on Assets (ROA)</td>
<td>( \frac{\text{Profit After Tax}}{\text{Total Assets}} )</td>
<td>(Şamilioğlu et al., 2017)</td>
</tr>
<tr>
<td>Independent Variable</td>
<td>Audit Committee Financial Expertise (FinExpert)</td>
<td>( \text{Number of AC members with financial knowledge} )</td>
<td>(Ojeka et al., 2014); (Aryan, 2015)</td>
</tr>
<tr>
<td>Independent Variable</td>
<td>Audit Committee Size (ACSize)</td>
<td>( \text{Number of AC members at the year end} )</td>
<td>(Jerubet et al., 2017); (Aryan, 2015)</td>
</tr>
<tr>
<td>Control Variable</td>
<td>Industry Dummy (IndDummy)</td>
<td>( 1=\text{Industrial &amp; Allied, 2=Commercial, 3=Financial, 4=Agricultural sector} )</td>
<td>(Jerubet et al., 2017)</td>
</tr>
<tr>
<td>Control Variable</td>
<td>Cross-Listing Dummy (CrossList Dummy)</td>
<td>Cross-Listed = 1, Otherwise = 0</td>
<td>(Lei &amp; Miller, 2008)</td>
</tr>
</tbody>
</table>

\( \beta_0 \) is the constant term, and \( \beta_1, \beta_2, \ldots, \beta_4 \) are the respective coefficients for the model variables. \( \epsilon_{it} \) is the error term in model. The notation \( it \) means the \( i^{th} \) company in the year \( t \).

Due to the presence of time invariant variables like the industry dummy and cross-listing dummy, the study chose the random effects model over the fixed effects model in the regression analysis (Oussii & Bouilla Taktak, 2018). However, the Hausman test was also performed to verify the choice of the random effects model over the fixed effect model. The hypothesis for the Hausman test suggests the preferred model to be the random effects model. Its alternative hypothesis recommends the use of the fixed effects model. The Hausman test results failed to reject the null hypothesis, therefore recommended for the use of the random effects model.

The Breusch-Pagan Langrangian test was also done, whose results also recommended for the use of random effects regression estimation model over the ordinary least squares (OLS) (Oussii & Bouilla Taktak, 2018).

Diagnostic statistical tests on the multiple regression assumptions were performed as well to ensure the regression model used did not violate the underlying basic assumptions. Testing for the normality distribution of errors, a histogram plot of the residuals confirmed a normal distribution (Williams, Grajales, & Kurkiewicz, 2013). Test of multicollinearity was performed and the results are shown in table 2.0 below together with the Variance Inflation Factor.
Factors (VIFs). The results suggest there was no multicollinearity problem. Based on Saunders et al. (2009), collinearity coefficient between any two independent variables should not exceed 0.90, and the Variance Inflation Factor (VIF) for an independent variable should not exceed a threshold of 10.0.

### Table 2.0 Multicollinearity Coefficient Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>ROA</th>
<th>Financial Expertise</th>
<th>AC Size</th>
<th>Industry Dummy</th>
<th>Cross-List Dummy</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Expertise</td>
<td>-0.187*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1.93</td>
</tr>
<tr>
<td>AC Size</td>
<td>-0.232*</td>
<td>0.655*</td>
<td>1</td>
<td></td>
<td></td>
<td>1.93</td>
</tr>
<tr>
<td>Industry Dummy</td>
<td>0.266*</td>
<td>-0.537*</td>
<td>-0.524*</td>
<td>1</td>
<td></td>
<td>1.52</td>
</tr>
<tr>
<td>Cross-List Dummy</td>
<td>-0.069</td>
<td>0.088</td>
<td>0.180*</td>
<td>-0.103</td>
<td>1</td>
<td>1.04</td>
</tr>
</tbody>
</table>

* Significant at p < 0.05

**iv. Findings and Discussion**

Descriptive statistics for the data are given in table 3.0 below.

### Table 3.0 Descriptive Statistics

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Observation</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returns on Assets (ROA)</td>
<td>148</td>
<td>0.096</td>
<td>0.155</td>
<td>-0.516</td>
<td>0.484</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Expertise</td>
<td>132</td>
<td>1.742</td>
<td>1.137</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>AC Size</td>
<td>132</td>
<td>3.599</td>
<td>0.855</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry Dummy</td>
<td>154</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Cross-List Dummy</td>
<td>154</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

The overall mean ROA is 9.6%, with the minimum rate of -51.6% and a maximum rate of 48.4%. For the AC Financial expertise, an overall average is approximately 2 AC members had financial and accounting knowledge, while there were some ACs without a single member with such knowledge. The highest number of AC members with financial and accounting knowledge was 6 members. On the AC size, an overall average number was approximately 3 members. The minimum number was 2 members, while the highest number was 6 members.

The results of the random effects regression estimation model used are as shown in table 4.0 below.

### Table 4.0 Random Effects regression estimation results

<table>
<thead>
<tr>
<th>Variables</th>
<th>ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Expertise</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Significance Levels: ***p < 0.01, ** p < 0.05 and the figures in parentheses are the z – scores

Basically, the model predicts a significant constant increase of 0.194 on ROA when a listed company at DSE does not have an AC. On the AC Financial expertise, the results showed a positive but
insignificant relationship between AC Financial expertise and profitability of a listed company at DSE, as measured by ROA. The model predicts an increase in ROA by 0.009 when an extra AC member with financial expertise is added to the AC of a listed company at DSE. These results are also similar to Bouaine and Hrichi (2019) who found insignificant influence of AC financial expertise on both ROA and ROE for a listed company in Paris Stock Exchange. Al-Mamun et al. (2014) had also found insignificant positive relationship between AC financial expertise and financial performance. Moreover, other studies had found the influence of AC financial expertise on financial performance was positive and significant. One of them is Ojeka et al. (2014) that found a positive significant influence of AC Financial expertise on ROA for a listed manufacturing company at Nigeria Stock exchange. Another similar study result is in Kipkoech and Rono (2016), who found a positive significant influence of AC Financial expertise on ROA of a listed company at NSE. Osemene and Fakile (2019) also found a significant positive influence of AC financial expertise on financial performance of Nigerian listed banks, as measured by ROE.

For the AC size, the study results showed a significant negative influence of AC size on ROA at 0.05 significance level. The model predicts a decrease in ROA by 0.046 when an extra member is added to the AC of a listed company at DSE. These results are similar to Kipkoech and Rono (2016) who also found a significant negative influence of AC size on ROA for the companies listed at NSE. Bouaine and Hrichi (2019) similarly found AC size had significant negative influence on ROA but insignificant negative influence on ROE. Al-Mamun et al. (2014) also found significant negative relationship between AC size and financial performance as measured by EVA. Other studies, like Oroud (2019) found no relationship between AC size and profitability of a listed company at ASE, as measured by ROI.

v. Conclusion

The main objective of this paper was to examine the influence of AC characteristics on the profitability of listed companies at DSE. The AC characteristics were the AC size and AC financial expertise. The findings from this study confirm that the two AC characteristics have influence on the profitability of a listed company at DSE. The AC Financial expertise showed a positive but not significant influence on profitability while the AC size showed a significant negative influence on the profitability. Given that the influence of AC size in a listed company at DSE was found significantly negative while there are other studies like Ojeka et al. (2014), that found significant positive influence of AC size on financial performance of a listed company, it calls for qualitative studies to uncover more knowledge on both the positive and the negative attributes of an AC size. Knowledge on the attributes will help to enrich and widen corporate boards’ understanding of the AC size in order to enhance its influence positively on the profitability of the listed companies at DSE. A positive AC size influence will help improve the profitability of the listed companies at DSE. The improved profitability will ensure more corporation tax revenues for the government and dividends for the shareholders.

vi. Recommendation

Future studies in the area of AC characteristics for the listed companies at DSE should focus on finding the optimal AC size that positively influence on profitability. The optimal AC size is the one that ensures maximum profitability at minimum monitoring costs. Knowledge on the optimal AC size will inform the governing boards of the listed companies at DSE on how to effectively utilize the AC characteristic to effectively improve on profitability. For policy makers, knowledge on the optimal AC size will enhance government efforts in regulating listed companies’ operations at DSE. The knowledge will also enhance and encourage good corporate governance practices within the governing boards of the listed companies at DSE in order to protect investors’ wealth in the listed companies at DSE and boost government revenue in terms of corporate taxes from the listed companies.
vi. References


