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Analysis of Personality Related Corporate Governance Factors and Performance of Ghana Club 100 Companies

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ABSTRACT

The extant literature shows that when the CEO of a firm is the same as the chairman of the board of directors it is more likely to affect independence of the board and the management of the establishment. For this reason business organization ensure independence of the two persons in order to reduce the propensity for conflict of interest in the organization. The objective of this study is to establish the veracity in the claim that personality related factors of corporate governance exert significant influence on performance of forms. Hypothesis 1 is accepted because the analysis shows that CEO Duality has a negative influence on return on asset hence performance of firm. Similarly hypothesis 1b is also affirmed considering that a unit increase in CEO Succession also negatively influences the performance of firms in terms of their return on assets. The influence of board gender composition on the return on assets or firm performance as postulated in hypothesis 1c has also been affirmed by the positive and statistically significant relationships analysed in this study. The findings of this research do not support the influence of board educational level and board experience as a significant factor in stimulating the performance of firms. This is because both results returned a p value less than 0.05 at 95% confidence interval.

Keywords : Corporate Governance Factors, CEO, Return on Asset, Augmented Dickey-Fuller, Ordinary Least Squares , Vector Error Correction Model

I. INTRODUCTION

This study seeks to evaluate the influence of personality related corporate governance factors on the performance of the companies listed on the Ghana Club 100. The personality related factors (CEO duality, CEO Succession, gender composition, board educational level and board working experience) has to do with the achieved or the ascribed status of the managers of the firms. The extant literature shows that when the CEO of a firm is the same as the chairman of the board of directors it is more likely to affect independence of the board and the management of the establishment. For this reason business organization ensure independence of the two persons in order to reduce the propensity for conflict of interest in the organization. Thus we assume that in firms where the CEO and the board chairman is the same person, lack of independence may lead to compromised transactions or lack of transparency which can affect the performance of the firms and their ranking on the Ghana Club 100. In the case of CEO succession, Thompson et al (2019) explains that as assumed in agency theory, a major corporate governance issue in modern firms is to prevent managers from maximizing their own interests at the expenses of shareholders' interests. However, in the case of founder-managed firm, founder CEOs' intrinsic motivation to improve firm performance makes them more likely to behave as a steward instead of an agent (Fattoum-Guedri and Delmar, 2017). Therefore, the motivation of CEO could also change as a consequence of a founder CEO succession. Regarding gender composition, Amoako et al (2019) explains that the presence of women on board is supposed to moderate the exuberance of a mainly men dominated men group. It is the contention of Wattrus et al (2019) that a key element in the adoption of new corporate governance mechanism such as the Sarbanese Oxley Act as well as the New Corporate Governance Codes that evolved after the global economic crisis and the infamous Enron and WorldCom case was an attempt to place women and institutional investors as the guards of corporate governance in institutions that have public interest. Thus the more women are on the board, the more the board is expected to be open to improve scrutiny and avoid ambitious risk taking ventures. The extant literature is inconclusive about the influence of board educational level and board working experience on the corporate governance practices and their respective influence on performance. The idea discussed in the prior studies is the assumption that where organization the higher the level of education of board members as well as their work experience, the more experience they may have accumulated in the industry to guide and govern the organization on the path of success and efficiency. However, with time, most of these ideas and concepts have been contested as the majority of the companies where corporate fraud and accounting scandals have occurred in one form or the other have all been under the management or guidance of board members with many years of experience as well as the highest form of education. Yet in the case of Ghana and Ghana Club 10, the generalizability of these perceptions of hypothesis is yet to be established. The objective of this chapter therefore is to seek to explore the validity of the personality related attributes of board members and their respective effect on performance and ranking of the firms. Thus we hypothesize that;

- H1a: CEO Duality significantly influences the performance of companies in the Ghana Club 100 group
- H1b: CEO Succession significantly influences the performance of companies in the Ghana Club 100 group
- H1c: Board gender composition significantly influences the performance of companies in the Ghana Club 100 group
- H1d: Board educational level significantly influences the performance of companies in the Ghana Club 100 group
- H1e: Board experience level significantly influences the performance of companies in the Ghana Club 100 group

II. METHODS AND MATERIAL

2.1 Methodology

This research focused on companies that are listed on ranked on the Ghana Club 100, which is the local version of the Fortune 500 companies. The company has experienced a significantly stable composition with occasional inclusions and exclusion of fringe companies. The criteria for ranking on the club 100 include all the considerations of Ghana Stock Exchange as well as other considerations. The dependent variable for this research is the firm performance of the firms based on Return on Asset (ROA) while the independent variables were the CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience (BODW). Parallel data was obtained from the Ghana Investment Promotion Council and the Ghana Stock Exchange. The data covered a period of 10 years from 2008 to 2018. ROA served as the regressor in the first model to establish the effect of corporate governance on firm performance. The age of a firm, the size of the firm, leverage and strategic change were controlled in order to obtain robustness of inference.

2.2 Empirical Model

To scrutinize the relationship between firm performance and the independent variables, the Prai-Winsten estimator is applied. The Prais-Winsten estimation proposed by Prais and Winsten (1954), is a type of regression analysis that factors in serial correlation of type AR(1) in a linear model. It is perceived as an improvement on Cochrane-Orcutt estimate developed by Cochrane and Orcutt (1949). The study applied this pROEdure to control the classical serial correlation of type AR (1). The Prais-Winsten equation is written as;

$$Y_{it} = \alpha_0 + X_t\beta + \varepsilon_{it}$$

Where $Y_{it}$the time series at time t is, β is the vector of coefficients, X_t is the matrix of explanatory variables. The error term can be serially correlated overtime

$$Y_{it} - py_{t-1} = \alpha_t(1-p) + \beta(X_t - pX_{t-1}) + \varepsilon_{it}$$

Thus the research work framed the Prais-Winsten model as:

$$\sqrt{1} - p^2 lnROA_{it} = \alpha_t + \beta_1\sqrt{1} - p^2 lnCEOD + \beta_2\sqrt{1} - p^2 lnCEOS + \beta_3\sqrt{1} - p^2 lnBODG + \beta_4\sqrt{1} - p^2 lnBODE + \beta_5\sqrt{1} - p^2 lnBODW + \beta_6\sqrt{1} - p^2 lnSIZE + \beta_7\sqrt{1} - p^2 lnAGE + \beta_8\sqrt{1} - p^2 lnLEVG + \beta_9\sqrt{1} - p^2 lnSTRA + \varepsilon_{it}$$

where ROA represents the Return on Assets, CEOD represents the CEO duality, CEOS represents the CEO Succession, BODG represents the board gender composition, BODE represents the board educational level, BODW represents the board working experience, β_0 denotes the country fixed effects and ε_t is the error term. The control variables are size, age, leverage and strategic choice of firms.

2.3 Time Series Unit Root Test

This study firstly tested the time series variables for their stationarity. Time series data is regarded to be stationary when time becomes unchanged; hence; the mean, the variance, and auto-covariance of the time series data being measured are the same irrespective if estimated. Following Elliot, Rothenberg, and Stock (1996) pROEdure, the study therefore, employed the recent ADF (Augmented Dickey-Fuller) and PP (Phillips-Perron) unit root tests in examining for the stationarity of the time series variables involved. The advantage of using the ADF and PP unit root test is that it examines whether the data are difference stationary or trend stationary to determine the unit roots at their level. The study performed Dickey and Fuller (1979) Augmented Dickey-Fuller (ADF) unit root specified in Eq. (5) as:

$$\Delta y_t = \alpha_0 + \beta_{t-1} + \gamma y_{t-1} + \delta_2 \Delta y_{t-1} \ldots \delta_{i-1}\Delta y_{t-i+1} + V_t \quad (5)$$

2.4 Autoregressive distributed lag (ARDL) Bounds Cointegration Test

In finding out whether the variables of this study are cointegrated in the short-run and long-run, the study applied the ARDL bound testing model by Pesaran, Shin, and Smith (2001). This ARDL model is best when the study variables are small as in this case. Moreover, the ARDL bound cointegration test can ascertain both the short and long-run causality and does not limit all variables to be incorporated. The study used lag 1 based on the Akaike information criteria to estimate the model fitness. The ARDL model was estimated as shown in Eq. (7-11).

$$\Delta InROA_t = \alpha_0 + \sum_{i=1}^{k} \delta_1 \Delta InROA_{t-i} + \sum_{i=1}^{k} \psi_1 \Delta InCEOD_{t-i} + \sum_{i=1}^{k} \omega_1 \Delta InCEOS_{t-i} + \sum_{i=1}^{k} \gamma_1 \Delta InBODG_{t-i} + \sum_{i=1}^{k} \varphi_1 \Delta InBODE_{t-i} + \lambda_1 InBODW_{t-i} + \lambda_2 InSIZE_{t-i} + \lambda_3 InAGE_{t-i} + \lambda_4 InLEVG_{t-i} + \lambda_5 InSTRA_{t-i} + \varepsilon_t$$

$$\Delta InCEOD_t = \alpha_0 + \sum_{i=1}^{k} \psi_1 \Delta InCEOD_{t-I} + \sum_{i=1}^{k} \omega_1 \Delta InCEOS_{t-I} + \sum_{i=1}^{k} \gamma_1 \Delta InBODG_{t-I} + \sum_{i=1}^{k} \varphi_1 \Delta InBODE_{t-I} + \lambda_1 InBODW_{t-I} + \lambda_2 InSIZE_{t-I} + \lambda_3 InAGE_{t-I} + \lambda_4 InLEVG_{t-I} + \lambda_5 InSTRA_{t-I} + \varepsilon_t \quad (7)$$

$$\Delta InCEOS_t = \alpha_0 + \sum_{i=1}^{k} \omega_1 \Delta InCEOS_{t-i} + \sum_{i=1}^{k} \psi_1 \Delta InCEOD_{t-i} + \sum_{i=1}^{k} \gamma_1 \Delta InBODG_{t-i} + \sum_{i=1}^{k} \varphi_1 \Delta InBODE_{t-i} + \lambda_1 InBODW_{t-i} + \lambda_2 InSIZE_{t-i} + \lambda_3 InAGE_{t-i} + \lambda_4 InLEVG_{t-i} + \lambda_5 InSTRA_{t-i} + \varepsilon_t$$

$$\Delta InBODG_t = \alpha_0 + \sum_{i=1}^{k} \gamma_1 \Delta InBODG_{t-i} + \sum_{i=1}^{k} \psi_1 \Delta InCEOD_{t-i} + \sum_{i=1}^{k} \omega_1 \Delta InCEOS_{t-i} + \sum_{i=1}^{k} \varphi_1 \Delta InBODE_{t-i} + \lambda_1 InBODW_{t-i} + \lambda_2 InSIZE_{t-i} + \lambda_3 InAGE_{t-i} + \lambda_4 InLEVG_{t-i} + \lambda_5 InSTRA_{t-i} + \varepsilon_t$$

$$\Delta InBODE_t = \alpha_0 + \sum_{i=1}^{k} \varphi_1 \Delta InBODE_{t-I} + \sum_{i=1}^{k} \psi_1 \Delta InCEOD_{t-I} + \sum_{i=1}^{k} \omega_1 \Delta InCEOS_{t-I} + \sum_{i=1}^{k} \gamma_1 \Delta InBODG_{t-I} + \lambda_1 InBODW_{t-I} + \lambda_2 InSIZE_{t-I} + \lambda_3 InAGE_{t-I} + \lambda_4 InLEVG_{t-I} + \lambda_5 InSTRA_{t-I} + \varepsilon_t \quad (8)$$

$$\Delta InBODW_t = \alpha_0 + \lambda_1 InBODW_{t-i} + \sum_{i=1}^{k} \varphi_1 \Delta InBODE_{t-i} + \sum_{i=1}^{k} \psi_1 \Delta InCEOD_{t-i} + \sum_{i=1}^{k} \omega_1 \Delta InCEOS_{t-i} + \sum_{i=1}^{k} \gamma_1 \Delta InBODG_{t-i} + \lambda_2 InSIZE_{t-i} + \lambda_3 InAGE_{t-i} + \lambda_4 InLEVG_{t-i} + \lambda_5 InSTRA_{t-i} + \varepsilon_t$$

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where Δ is the first difference, α_0 denotes the drift component, In is the logarithm and ε_t signs denote the error correction dynamics while the terms with λ_i estimates the long-run relationship. Our study tested the null hypothesis: $H_0 : \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = 0$ against the hypothesis $H_1 : \lambda_1 \neq 0,\ \lambda_2 \neq 0,\ \lambda_3 \neq 0,\ \lambda_4 \neq 0,\ \lambda_5 \neq 0$. This study utilized the Narayan and Narayan (2005) critical values and F-statistics for cointegration making each of the variables dependent. The F-statistics of the bound test is therefore linked with the critical values. The null hypothesis of no integration will be rejected when the F-statistics value is more than the upper critical regardless of the series being order zero or one.

2.5 Ordinary Least Squares (OLS)

To examine the nexus among the variables, an ordinary least squares test (OLS) was performed as proposed by Phillips and Hansen (1990). The merit of using OLS is that it examines conditional mean and unknown parameters in a regression form by reducing the value of the squared residuals. The reduced formulae of the OLS shall be:

$$ROA = F(x) = (, CEOD) \tag{12}$$

The OLS can be extended model as:

$$Y = F(x) = (CEOD, CEOS, BODG, BODE, BODW, SIZE, AGE, LEVG, STRA) \tag{13}$$

Transforming Eq. (14) into natural logarithms as:

$$InROA_t = \alpha_0 + \beta_1 InCEOD_t + \beta_2 InCEOS_t + \beta_3 InBODG_t + \beta_4 InBODE_t + \beta_4 InBODW_t + \varepsilon_t \tag{14}$$

2.6 Johansen Cointegration Tests

To ascertain the presence of the cointegration relationship amongst our variables, the study performed both trace Statistic and Maximum Eigenvalue Statistics test of Johansen cointegration. Johansen's cointegration maximum statistics test discloses that the researcher rejects the null hypothesis when the maximum statistics is more than the critical value at a 5% significance level and this indicates that the variables are stationary. Also, we accept the null hypothesis when maximum statistics is less than the critical value at a 5% significance level showing that variables are non-stationary. Maximum Eigenvalue statistics is express as:

$$J\ Max\ Statistics = -TL(1 - \hat{\lambda}_{r+1}) \tag{17}$$

Where T is the sample size and $\hat{\lambda}_r$ is ith largest long-run cointegration. r = 0, 1…. Ln -1 until we reject or accept the null hypothesis. The trace statistics test are based on the hypothesis until we reject or accept the null hypothesis:

$$J\ trace\ statistics = -T \sum_{i=ro+1}^{n} L(1 - \lambda_i) \tag{18}$$

Where λ_i denotes ith largest long-run coefficient, T is the sample size, L is the largest canonical correlation.

2.7 Vector Error Correction Model (VECM)

As cointegration connection is established from the test for cointegration; following Granger (1969), the direction of the causality among CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience (BODW) is tested utilizing the Granger causality analysis in the Vector Error Correction Model (VECM). The VECM model is estimated as an alternate to the VAR model in instances when the long-run interaction is confirmed amide the variables. Granger uncovers that there is the direction of association amid the study series. In the study, the Granger Causality test is estimated in the extended form with the Vector Error Correction Model as in Eq. (19).

$$(1-L)\begin{bmatrix} ROA_t \\ CEOD_t \\ CEOS_t \\ BODG_t \\ BODE_t \end{bmatrix} = \begin{bmatrix} ROA_1 \\ CEOD_2 \\ CEOS_3 \\ BODG_4 \\ BODE_5 \end{bmatrix} + \sum_{i=1}^{p} (1-L) \begin{bmatrix} \alpha_{11i}\alpha_{12i}\alpha_{13i}\alpha_{14i}\alpha_{15i}\alpha_{15i} \\ \alpha_{21i}\alpha_{22i}\alpha_{23i}\alpha_{24i}\alpha_{25i}\alpha_{15i} \\ \alpha_{31i}\alpha_{32i}\alpha_{33i}\alpha_{34i}\alpha_{35i}\alpha_{15i} \\ \alpha_{41i}\alpha_{42i}\alpha_{43i}\alpha_{44i}\alpha_{45i}\alpha_{15i} \\ \alpha_{51i}\alpha_{52i}\alpha_{53i}\alpha_{54i}\alpha_{55i}\alpha_{15i} \end{bmatrix} \begin{bmatrix} ROA_{t-i} \\ CEOD_{t-i} \\ COES_{t-i} \\ BODG_{t-i} \\ BODE_{t-i} \end{bmatrix} + \begin{bmatrix} \gamma_1 \\ \gamma_2 \\ \gamma_3 \\ \gamma_4 \\ \gamma_5 \end{bmatrix} [ECM_{t-1}] + \begin{bmatrix} \gamma_{1t} \\ \gamma_{2t} \\ \gamma_{3t} \\ \gamma_{4t} \\ \gamma_{5t} \end{bmatrix}$$

(19)

The ECM_{t-1} captures the error correction term and (1 – L) the lag operator, is the number of lags in the model.

III. RESULTS AND DISCUSSION

3.1 Empirical results

This section discusses the results and findings from the descriptive statistics, OLS, the test of cointegration, the variance decomposition analysis, and the VECM Granger causality test. Table 2 shows the results of the descriptive statistics and outlined that the gross fixed capital formation (GCF) had the highest mean (26.35), depicting as a very crucial variable for Sub-Saharan Africa and as a standard measure of the center of the distribution of the data. The results also back the assumption that gross fixed capital formation (GCF) influences the growth of an economy.

Table 1 : Results of the Unit Root Test

	Dickey and Fuller (1979) ADF		**Phillips and Perron (1988) PP**		**Integration Order**
Variables	**AT LEVELS**	**AT 1ST DIFFERENCE**	**AT LEVELS**	**AT 1ST DIFFERENCE**	
ROA	-4.25** (0.01)	-3.04* (0.07)	-9.16*** (0.00)	-3.35** (0.04)	I (1)
CEOD	-2.47 (0.14)	-5.03*** (0.00)	-2.99* (0.06)	-8.43*** (0.00)	I (1)
CEOS	-2.51 (0.13)	-4.89*** (0.00)	-2.57 (0.12)	-8.37*** (0.00)	I (1)
BODG	-4.25** (0.01)	-3.04* (0.07)	-9.16*** (0.00)	-3.35** (0.04)	I (1)
BODE	0.99 (0.99)	-6.45** (0.02)	0.99 (0.99)	-3.65** (0.02)	I (1)
BODW	-4.01** (0.01)	-3.04* (0.07)	-9.70*** (0.00)	-6.36*** (0.00)	I (1)

Note: ADF-(Augmented Dicker Fuller); PP-(Phillips Perron) ***, ** & * denotes 1%, 5% and 10% respectively

Unit Root Test

In order to know the order of integration, the study tested the unit root properties of the variables with the conventional approach, ADF & PP Test. These entire tests as revealed in Table 3, accepted the null hypothesis of the existence of unit root in all the data (CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience (BODW) at levels. At levels, the p-values of all the series were greater than 0.05, hence failed to discard the null hypothesis of the existence of unit root in the series. However, after the 1st differences, the study rejected the null hypothesis of the existence of unit root in the variables as all the p-values of unit root tests were less than 0.05 ($p < 0.05$). This implies that at 1st difference all the variables are stationary. The result of the unit root tests in Table 3 disclosed all the variables as I (1). Hence; they are stationary after first differencing but non-stationary at levels.

3.2 Results

This section discusses the results and findings from the descriptive statistics, OLS, the test of cointegration, the variance decomposition analysis, and the VECM Granger causality test.

Results of Unit Root Test

In order to know the order of integration, our study tested the unit root properties of the variables with the conventional approach, ADF & PP Test. These entire tests as revealed in Table 3, our study accepted the null hypothesis of the existence of unit root in all the data (CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience (BODWat levels. At levels, the p-values of all the series were greater than 0.05, hence failed to discard the null hypothesis of the existence of unit root in the series. However, after the 1st differences, our study rejected the null hypothesis of the existence of unit root in the variables as all the p-values of unit root tests were less than 0.05 ($p < 0.05$). This implies that at 1st difference all the variables are stationary. The result of the unit root tests in Table 3 disclosed all the variables as I (1). Hence; they are stationary after first differencing but non-stationary at levels.

Results of the Johansen Cointegration Test

Long-run interactions among the variables are estimated using the Johansen cointegration approach. The maximum and the trace statistics of the Johansen cointegration test as shown in Table 2 rejected the null hypothesis showing no cointegrating as the statistic value is more than the critical value (83.23 > 34.81); (156.85 > 76.97). Similarly, the probability value of both tests is less than the critical value at 5% (P-value = 0.000). Based on the trace statistic and maximum statistic test results, it can be confirmed that there is long-run causality amid (CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience (BODW)

Table 2 : Results from the Johansen cointegration test

Hypothesized No. of CE(s)	Maximum Statistic	Eigenvalue	5% critical value	Prob	Trace Statistic	Eigenvalue	5% critical value	Prob
None *	83.23	1.00	34.81	0.00	156.85	1.00	76.97	0.00
At most 1 *	41.31	0.96	28.59	0.00	73.63	0.96	54.08	0.00
At most 2	19.02	0.77	22.30	0.13	32.31	0.77	35.19	0.10
At most 3	10.28	0.55	15.89	0.31	13.29	0.55	20.26	0.34
At most 4	3.01	0.21	9.16	0.58	3.01	0.21	9.16	0.58

Notes: * denotes rejection of the null hypothesis at the 0.05 level

3.3 Results of the ARDL Model

To test for long-run cointegration amid (CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience(BODW), our study estimated Pesaran et al. (2001) ARDL bound testing approach as reported in Table 3. The optimal lag for the ARDL was selected following the optimal lag selection pROEdure. After the affirmation of cointegration among the variables, our study computed both the short and long run ARDL estimates as testified in Table 6. The study established the optimal model as (Model 1, 0, 0, 1, 1) according to optimum model selection. The estimated coefficients of long-run relationships (Table 6) are significant for CEO Duality (CEOD) and CEO Succession were negative meaning that when CEOD duality and and succession increases, they invariable negatively influences ROA and for that matter the performance of the firm. Similarly, the long term influence of board gender composition (BODG) composition also returned a positive and statistically significant value suggesting that in the long run there is the possibility that increasing the number of women on the board of a firm can improve their performance. In the short run, the estimated ARDL model indicated that CEO Succession and CEO Duality have a significant impact on the return on assets (ROA). A unit increase CEO Succession, and CEO duality leads to reduced performance by approximately 14% and 32% respectively as shown in Table 4. Similar results are noted in the case of Board Gender composition. Significantly the influence of Board educational level and board working experience on return on assets or performance of firms was statistically significant in the short term.

Table 3 : Results of the ARDL Bounds Cointegration Test

Dependent Variables	F-Stats	Chi-square	Prob (F-stats)	Model
ROA =f (CEOD, CEOS, BODG, BODE, BODW)	5.99**	0.94	0.01	1,0,0,1,1
CEOD =f (CEOS, ROA, BODG, BODE, BODW)	0.17	0.56	0.57	1,0,1,0,1
CEOS = f (CEOD, ROA, BODG, BODE, BODW)	3.57**	0.94	0.01	1,0,1,0,1
BODG = f (CEOS, ROA, BODE, CEOD, BODW)	0.51	0.84	0.08	1,1,1,0,0
BODE = f (CEOS, ROA, CEOD, BODG, BODW)	0.82	0.73	2.70	1,0,0,0,1
BODW =f (CEOS, ROA, CEOD, BODG, BODE)	0.17	0.56	0.57	1,0,1,0,1

Table 4 : Results of the Short and Longrun Estimates of the ARDL Model (Dependent Variable: ROA)

Model	Coefficient	T-Statistic	P-Value
Short- run Estimates			
ΔCEOD	-0.13	-4.29	0.01**
ΔCEOD (-1)	-0.75	-0.15	0.79
ΔCEOS	-0.30	8.63	0.00***
ΔCEOS (-1)	-0.08	0.43	0.69
ΔBODG	0.01	7.89	0.00***
ΔBODG (-1)	0.01	-0.81	0.46
ΔBODE	-0.04	-5.34	0.060
ΔBODE (-1)	0.03	0.61	0.57
ΔBODW	-0.13	-4.29	0.81**
ΔBODW (-1)	-0.75	-0.15	0.79
ECT (-1)	-0.94	-15.83	0.00***
Long-run Estimates			
Constant	1.91	11.66	0.00***
COED	-0.14	-4.23	0.01**
CEOS	-0.32	10.11	0.00***
BODG	0.01	3.80	0.02**
BODE	-0.02	-1.79	0.13
BODW	-0.32	10.11	0.11

ARDL Model (1, 0, 0, 1, 1); R^2 = 1.00 ; Adj. R^2 = 1.00 ; Prob (F-stat)=0.00 ***, ** & * denotes 1%, 5% and 10% respectively

Diagnostic and Stability Test Results

The study estimated the unrestricted VAR lag order selection criteria to select the lag length. Under the unrestricted VAR model, the suitable lag is specified with an asterisk and the smaller the value, the better the criteria. The results of Table 5 give the VAR lag order selection criteria as shown below. The asterisk results show that all criteria are suitable, using one lag length. The lag of the study is based on AIC. After confirming the optimal lag length, a cointegration test was the next stage.To confirm an appropriate model for the study, we performed residual diagnosis and stability tests. The model passed the test of serial correlation and heteroskedacity test as shown in Table 8. The serial correlation test, using the Breusch-Godfrey serial correlation LM test, fails to accept the null hypothesis of serial correlation amongst variables (p-value of 0.99). Again, there are no arch effects in the model, with a p-value of 0.90. This study additionally employed the cumulative sum (CUSUM) and cumulative sum of squares (CUSUM) test based on a recursive regression stability test as and the plots of these statistics fell within the critical bounds at a 95% confidence level, hence signifying that the model is robust and stable. Consequently, it implies that the model is suitable for econometric analyses and policy recommendations and formulation.

Table 5 : Results of optimum Lag Selection Criteria

LR statistic	FPE	AIC	SIC	HQ	k
NA	8.09E-13	-13.65	-13.4375	-13.6995	0
95.77144*	6.31e-17*	-23.49027*	-22.18654*	-23.75825*	1

The study further tested the equation for the normality test, heteroscedasticity, and serial correlation by employing the Q-Statistics teats. The results in Table 6 show that the observed R-squared Chi-square probability value is insignificant at 5% critical values. Hence, no serial correlation in this study model. Next the study tested for homoscedasticity to indicate whether the variance is constant. The observed R-square probability values for Breusch-Pagan-Godfrey Test and ARCH test are not significant at 5% critical value. This depicts that the model for the study is homoscedastic. Hence, our results are suitable for econometric analysis and inferences.

Table 6 : Results of the residual diagnosis test of the model

Test	F-Stats	P-values	Decision
Heteroscedasticity	0.65	0.43	No arch affected
Serial correlation	6.54	0.99	No serial correlation effect
Jarque-Bera	-	0.55	Normally distributed

Cointegration Test Results

For better and more accurate statistical inference regarding the direction of the causality among the variables, this study utilized the conventional VCEM Granger Causality test. According to the VCEM Granger Causality in Table 8, in the short run, there is a unidirectional Granger causality running from Return on Assets (ROA) to CEO Duality (CEOD) and from board gender composition (BODG) to ROA. The phenomenal increase in ROA as a results of board gender composition and the reduction in ROA as a results of increases in CEO duality and CEO Succession supports the claims in the extant literature that increases in board gender composition can have positive effect on from performance hence a good corporate governance factor. Further the results of the study equally reiterates the unresolved impact of board educational level and board experiences as a factor in stimulating positive growth in firms.

Table 7 : VECM Granger Causality Test

	MODEL (VECM MODEL)						
	SHORTRUN CAUSALITY						LONGRUN
Variables	ΔROA_t	$\Delta CEOD_t$	$\Delta CEOS_t$	$\Delta BODG_t$	$\Delta BODE_t$	$\Delta BODW_t$	ECT_{t-1}
ΔROA_t	-	1.24(0.01) **	1.65(0.01) **	-0.42(0.68)	0.18(0.86)	-0.04 (0.97)	1.00
$\Delta CEOD_t$	-0.02(0.98)	-	-2.63 (0.01) **-	-0.07(0.94)	0.63(0.53)	0.31 (0.75)	0.13(-0.02)
$\Delta CEOS_t$	0.09(0.93)	-1.09(0.01) **	-	-0.02(0.98)	-0.48(0.63)	0.12 (0.90)	-0.31(-0.01)
$\Delta BODG_t$	0.07(0.94)	-0.61(0.54)	-0.61(0.54)	-	0.17(0.87)	-0.13 (0.90)	-0.01(0.00) ***
$\Delta BODE_t$	0.26(0.80)	0.68(0.50)	0.68(0.50)	0.06(0.96)	-	0.38(0.70)	0.01(0.00) ***
$\Delta BODW_t$	0.09(0.93)	-2.63 (0.01) **	-2.63 (0.01) **	0.12 (0.90)	-0.48(0.63)	-	-0.31(-0.01)

The innovative accounting approach (Variance Decomposition) and impulse response function analysis. In addition to conducting a causality test, the study went a step further to examine if there is causality among the time series variables in the future by conducting an innovative accounting (Variance Decomposition) and impulse response function (IRF) analysis. This aids the researcher to avoid the essential problem of the causality test of being unable to detect the causal relationship among variables examined beyond the current study period. According to the variance decomposition test, there is a causal association among CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience (BODW) for the next ten (10) years.

The results of the variance decomposition analysis, reported in Table 8 show that in the short period (i.e. period 2) about 99.04% ROA is caused by its own standard innovation shock. However, the ROA of firms reacts by 0.04, 0.89, 0.04 and 0.03 when standard deviation changes imputed in CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience (BODW) correspondingly. Subsequently, in the long run (i.e. period 10), 97.17% of ROA is caused by its own shock whiles one standard deviation change is imputed in CEO duality (CEOD), CEO Succession (CEOS), gender composition (BODG), board educational level (BODE) and board working experience (BODW) is caused by 1.64%, 1.10%, 0.05% and 0.04% accordingly. The results of the variance decomposition (Table 9) also indicate that all the variables will lead to a surge in ROA although ROA will drop by a small margin.

Table 8 : Results of the Variance Decomposition Analysis

Period	SE	ROA	CEOD	CEOS	BODG	BODE
Variance Decomposition ROA						
1	0.0126	100.0000	0.0000	0.0000	0.0000	0.0000

2	0.0129	99.0372	0.0042	0.8869	0.0395	0.0322
3	0.0130	98.7061	0.1291	1.0731	0.0529	0.0388
4	0.0130	98.4949	0.3069	1.1040	0.0546	0.0396
5	0.0130	98.2818	0.5152	1.1085	0.0547	0.0397
6	0.0130	98.0626	0.7353	1.1079	0.0546	0.0396
7	0.0130	97.8396	0.9604	1.1060	0.0545	0.0396
8	0.0131	97.6150	1.1874	1.1037	0.0544	0.0395
9	0.0131	97.3900	1.4149	1.1014	0.0543	0.0394
10	0.0131	97.1651	1.6424	1.0990	0.0542	0.0393
			Variance Decomposition LAB			
1	0.0020	1.1001	98.8999	0.0000	0.0000	0.0000
2	0.0026	0.7265	99.2622	0.0010	0.0094	0.0009
3	0.0031	0.5181	99.4596	0.0106	0.0111	0.0007
4	0.0035	0.4022	99.5662	0.0197	0.0113	0.0006
5	0.0039	0.3281	99.6327	0.0274	0.0112	0.0005
6	0.0042	0.2770	99.6781	0.0334	0.0111	0.0004
8	0.0046	0.2396	99.7111	0.0380	0.0110	0.0003
9	0.0049	0.2110	99.7362	0.0416	0.0109	0.0003
10	0.0051	0.1885	99.7560	0.0444	0.0108	0.0003
			Variance Decomposition GCF			
1	0.0466	72.3893	1.1800	26.4308	0.0000	0.0000
2	0.0485	72.8094	1.0888	25.9575	0.0929	0.0515
3	0.0491	72.8436	1.1334	25.8308	0.1279	0.0643
4	0.0492	72.7563	1.2630	25.7830	0.1316	0.0661
5	0.0492	72.6290	1.4363	25.7365	0.1319	0.0664
6	0.0493	72.4882	1.6267	25.6871	0.1317	0.0663
8	0.0493	72.3419	1.8248	25.6357	0.1314	0.0662
9	0.0494	72.1935	2.0258	25.5835	0.1312	0.0660
10	0.0494	72.0445	2.2279	25.5308	0.1309	0.0659
			Variance Decomposition OFDI			
1	0.4434	0.4415	16.1192	26.4464	56.9929	0.0000
2	0.4435	0.4727	16.1093	26.4577	56.9596	0.0007
3	0.4436	0.5104	16.1023	26.4540	56.9325	0.0009
4	0.4436	0.5152	16.1013	26.4536	56.9290	0.0009
5	0.4436	0.5162	16.1012	26.4535	56.9283	0.0009
6	0.4436	0.5163	16.1013	26.4535	56.9280	0.0009
8	0.4436	0.5163	16.1014	26.4534	56.9279	0.0009
9	0.4436	0.5163	16.1016	26.4534	56.9278	0.0009
10	0.4436	0.5163	16.1018	26.4533	56.9276	0.0009
			Variance Decomposition TR			
1	0.2300	45.2276	3.0881	38.4375	7.2084	6.0383
2	0.2356	46.5793	3.0315	37.6544	6.9415	5.7932
3	0.2371	46.9655	2.9963	37.4372	6.8731	5.7278
4	0.2373	47.0223	2.9913	37.4054	6.8628	5.7182
5	0.2373	47.0307	2.9943	37.3982	6.8606	5.7162

6	0.2374	47.0294	3.0003	37.3949	6.8598	5.7155
8	0.2374	47.0262	3.0076	37.3920	6.8593	5.7150
9	0.2374	47.0224	3.0154	37.3889	6.8587	5.7145
10	0.2374	47.0186	3.0234	37.3859	6.8581	5.7141

IV.CONCLUSION

The objective of this part of the study sought to establish the veracity in the claim that personality related factors of corporate governance exert significant influence on performance of forms. Hypothesis 1 is accepted because the analysis shows that CEO Duality has a negative influence on return on asset hence performance of firm. Similarly hypothesis 1b is also affirmed considering that a unit increase in CEO Succession also negatively influences the performance of firms in terms of their return on assets. The influence of board gender composition on the return on assets or firm performance as postulated in hypothesis 1c has also been affirmed by the positive and statistically significant relationships analysed in this study. The findings of this research do not support the influence of board educational level and board experience as a significant factor in stimulating the performance of firms. This is because both results returned a p value less than 0.05 at 95% confidence interval.

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