Moderating Effect of firm characteristics on relationship between corporate voluntary disclosure and firm value of listed companies in Kenya

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Abstract:
Background: Transparency and accountability has become critical for the company's success and value creation. Corporate disclosure and in particular corporate voluntary disclosure (CVD) is the prime mean by which corporations can become transparent. CVD provides greater transparency, stewardship obligations and effective decision-making process. However, the extent and type of CVD differ significantly among firms due to contextualized aspects mostly linked with different firm characteristics. The purpose of this study was to examine the moderating role of firm's characteristic on relationship between corporate voluntary disclosure and firm value of listed companies in Kenya.
Materials and Methods: A census survey was carried out on all listed companies at the NSE. Out of the 66 listed firms that were targeted, 56 were analysed. This study draws on stakeholder theory and agency theory to examine the moderating role of firm characteristics on relationship between corporate voluntary disclosure and firm value of listed on Nairobi Security Exchange. The study relied on disclosure index procedures to assess the level of corporate voluntary disclosure in the annual reports (2010-2019) of 56 listed companies. To understand the effect, panel data regression (fixed effect model, random effect model, hausman test) were conducted.
Results: The finding show that firm characteristic (firm size, leverage and industry type) has moderating effects on the relations between CVD and firm value. Firm's characteristics influences the strength of the relations among corporate voluntary disclosure and firm value measured using ROA and TQ.
Conclusion: The findings offers evidence regarding how various firm characteristics influences the relationship between CVD and firm value particularly in emerging economies. The study recommends comparative studies to ascertain if mixed results in prior studies were due to differences in social, political and economic environment between countries.
Key Word: Firm characteristics, corporate voluntary disclosure, firm value, listed companies at NSE.

I. Introduction

1.1 Background of the study

Transparency and accountability has become critical for the company's success and value creation. Corporate disclosure is the prime mean by which corporations can become transparent (Healy & Palepu, 2001). Corporate voluntary disclosure reflect intangible and non-financial value drivers unlike mandatory disclosure thus presents complete picture of firms' affairs (IFAC;, 2018; Healy & Palepu, 2001). CVD provides greater transparency, stewardship obligations and effective decision-making process. However, the extent and type of CVD differ significantly among firms due to contextualized aspects mostly linked with different firm characteristics (Core, 2001). Firm characteristics are managerial and demographic factors which form part of the company's internal environment (Mutende, Mwangi, Njihia, & Ochieng, 2017). They are distinguishing features or attributes inherent in an entity that can influence its performance.

There has been a series of research across the globe exploring determinants of disclosure following the initial empirical research by Cerf's (1961). According to Core, (2001), firm characteristics have been described as determinant of CVD level among firms. Prior studies indicate that various firm characteristics may affect the magnitude of firm value of CVD. For example studies by Elfeky 2017; Uyar et al., 2013;Hossain et al., 2012; Urquiza et al, 2010; Hossain et al., 2009; Barako 2007; Oliveira et al., 2006;Oyelere et al., 2003. Building upon

past research, this paper aim to examine firm characteristics moderating role in relationship between CVD and firm value.

A considerable body of research has identified the following firm characteristics as determinants of CVD: industry type, company size, audit firm, ownership structure, profitability, liquidity, firm leverage, listing status, age of firm, cross-listing status. The following variables are briefly describe as used in this study. First, firm size reflects how large a firm is in terms of infrastructure and/or employment. Company size has been measured by natural logarithm of total assets (Urquiza, Navarro, & Trombetta, 2010). Firm size is recognized as key variable in explaining the levels of CVD (Urquiza, et al., 2010). This proposition is based on proprietary cost hypothesis (big firms can easily afford both directs and indirect (proprietary) costs associated with CVD).

Second, industry type refer to the specific sector of operation of the company. Prior studies, have analyzed industry type using dummy variable where for example the value 1 = firm belongs to financial industry, value 0 = otherwise (Oliveira, Rodrigues, & Craig, 2006). Firms in different industries may face different degree of market and costs constraints exerted by industry competitive environment on business model. According to Meek et al., (1995) the nature of business of different companies is likely to expect that there is a high level of CVD for certain industry (perceived to be more sensitive and highly regulated companies) than other firms in different industries.

Lastly, firm leverage stands for the contribution of the foreign funds to the total funds available in the company (Mutende et al., 2017). It refers to the amount of fixed income securities, such as preferred equity and debt used by firm. The leverage is assessed by long-term debt/equity. Prior studies measured firm leverage as Total Debt/ Equity (Eng & Mak, 2003; Elfeky 2017).

From the prior studies, the aim research question is how several firm characteristics moderate the relationship between CVD and firm value. A part from investigating whether or not certain firm characteristics acts as determinants of CVD, also play an important role in moderating the relationship between CVD and firm value. Therefore, taking firm size, industry type and leverage as firm-specific characteristics that affect the firm's decision to embrace CVD, the study set hypothesis that allow the analyzes of firm characteristics influence the relationship between CVD and firm value.

The paper makes a significant contribution to the literature. First this paper offer new evidence regarding how several firm characteristics influence the relationship between CVD and firm value. Specifically, the study analyze the impact of the specific firm characteristics on the relationship between CVD and value in emerging countries. There are limited studies in emerging countries that has been conducted, not only on the moderating effects but also on the analysis of the effect of CVD on firm value.

Kenya capital market is fifth in the continent with a market capitalization of about $25.1 billion as at end of 2019 and the largest in East and Central Africa (Injeni, Mcfie, Mudida, & Mangena, 2019). The Nairobi Securities Exchange is the prime bourse offering automatic platform for listing and trading of manifold securities. The NSE has experienced tremendous growth with quoted firms increasing from 55 in 2009 to 66 in 2019. The market capitalization had also increased to about $25.1 billion in 2019 from $11 billion in 2009. In addition, shareholding of the foreign investors increased from 12.6% to slightly over 20% (Injeni et al 2019; CMA 2019). Listed companies are of interest to wide and sophisticated investors and therefore matters of corporate reporting are essential. Company Act of 1962 replaced by company Act of 2015 was up to 1983 the only regulation for listed companies that provided an outline and minimum disclosure requirement. All corporate disclosure required by laws are categorized as mandatory disclosure. CVD is not a requirement under any regulations and is adopted as a best practice voluntarily. Although, CVD is still a new concept in Kenya, its significance is graduating seizing more attention.

1.2 Research Problem

CVD is still a new concept in Kenya, however, its significance is graduating seizing more attention. Regardless of tremendous increase in non-financial information disclosure, there are conflicting research findings. Prior studies indicate marked differences in the CVD levels among listed firms. According to Farvaque et al., (2009); FASB (2001) different firms engage in CVD but the extent and type of CVD differ significantly. This may be due to contextualized aspects mostly linked with different firm characteristics (Healy and Palepu, 2001). According to Core (2001) firm characteristics have been described as determinant of CVD. In Kenya, listed firm's rate of adoption of CVD has been steady but slow at least as reflected in their public disclosure. According to Injeni et al., (2019) study indicate very low adoption on integrated reporting at the rate of 14% (7 out of the 50 listed companies' analysed). Hassan and Marston (2010) argues that provision of CVD is not without cost, there are direct cost (cost of disclosing information) and indirect cost (proprietary cost) that may affect disclosure practice. If CVD is crucial element in reduction of information asymmetry amongst companies and interested party and is value relevance, then, why do differences in CVD level exists? There are limited study investigating the moderating role of firm characteristics on association between CVD and the value of

listed companies in Kenya. This paper therefore aim to examine the effect of firm characteristics on relationship between corporate voluntary disclosure and firm value.

1.3 Research Objective
Determine the effect of firm's characteristics in moderating relations between corporate voluntary disclosure and firm value.

II. Literature review
2.1 Theoretical Review
This section explains the related theories on which the study is based. The theory explains the moderating role of firm characteristics on the relationship between the corporate voluntary disclosure and firm value. The stakeholders theory and agency theory was used to underpin the study.

2.1.1 Stakeholder Theory
Freeman (2004) describes stakeholders as those individuals who are vital to the success and survival of the organization. The theory assumes that all stakeholders have "customer-like" power to engage or not to engage with the company and the contribution of every stakeholder to the firm system of value creation affects the total value created (Ansoff 1965). Company does not have a homogenous set of stakeholders. Stakeholders' theory suggests that company need to meet information requirements of diverse set of users with complex set demand and supply. Information for stakeholders in economic decision-making is more diverse and dynamic.

Stakeholder theory view firms' CVD as a reaction to the expectations and demands from different interested parties and complex supply and demand. CVD information categories vary across different user group. According to stakeholder theory, big firms have more stakeholders and the needs for disclosure is heavier to fulfil diverse user's needs. Moreover, big firms are expected to have diverse operation and faces more complexity than small companies. Therefore, it is likely that they disclose extra information to users. In addition, stakeholders' theory argues that information demands is relative to the size and distribution of financial stakes of the stakeholders.

2.2.2 Agency Theory
The theory expresses the relationships and self-interests in business organisations as results of separation of financiers and control of business. According to Jensen and Meckling (1976), managers have advantage of more information than the owner, resulting in information asymmetry problem. The rationale is dissension in the preferred targets of agent and principal, both acts in their own best interest. The theory posit that CVD is a tool to alleviate the agency problem, by decreasing agency costs, monitoring costs, through lowering information asymmetry.

Prior studies have frequently used agency theory to analyze the determinant of accounting choices. Several researchers provided evidence that firm specific characteristics have a statistical significant relationship with the extent of voluntary disclosure (Healy & Palepu, 2001). Agency theory is deemed to link CVD and firm characteristics. Earlier studies have established that the rise in agency costs are probable in proportion with the rise in external financing. Thus, large companies are probable to have greater percentage of external financing, as such have incentives to adopt CVD to reduce agency costs (Uyar et al., 2013; Latridis and Alexakis 2012). Agency theory argues that companies with high debt to equity ratios release extra information to meet the information needs of lenders.

2.2 Empirical Review
Given the crucial role of CVD, a number of researcher have conducted studies to ascertain determinants of CVD practices. The relationships between extend of CVD and firm characteristics has been explored by many prior studies (Urquiza et al, 2010; Hossain et al., 2009; Barako 2007; Oyelere et al., 2003). Oyelere et al., (2003) broadly enlist factors influencing CVD practices for instance: the size of the firm, business sector, audit quality/size, leverage, listing status and profitability. Even though several factors have been recognizes, the finding showed mixed empirical evidence.

Elfeky (2017) study the extent of CVD and its causes in developing countries. Using CVD index to measure the extent of CVD. The study indicates mixed results; CVD was positively related to company size, leverage, audit type, profitability, independent directors, negatively related with CVD and block-holders ownership and no significance relationship was found among CEO duality, board size and CVD.
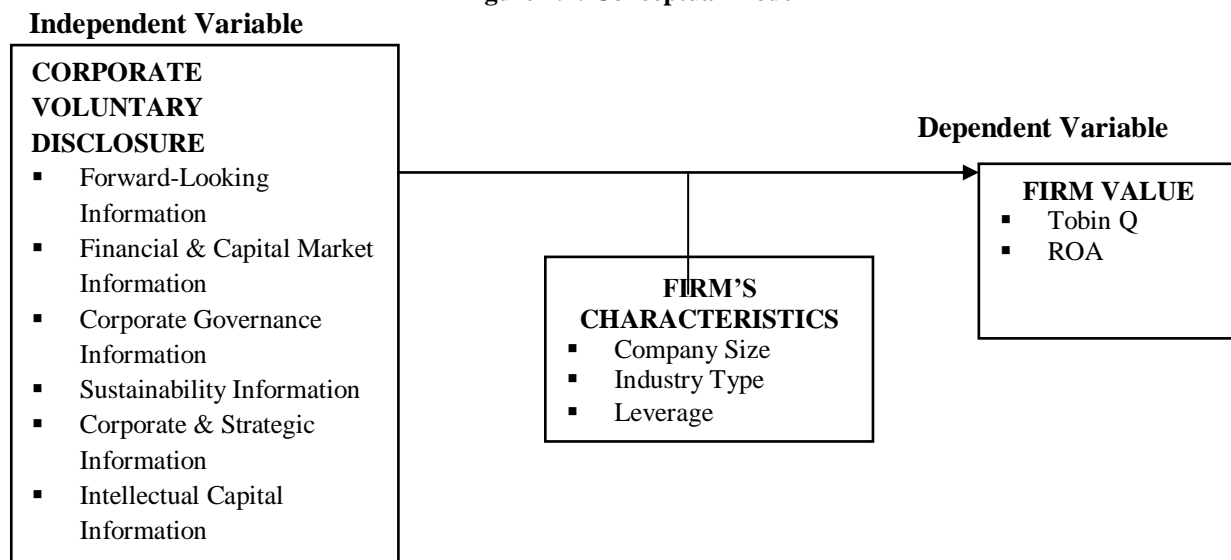
Uyar et al., (2013) study on firm's characteristics and CVD. The findings showed a statistical positive relations among CVD and the size of firm, auditing quality, institutional/corporate ownership, proportion of independent directors and corporate governance. However, ownership diffusion and leverage were found to be negatively associated with the CVD.

Hossain et al., (2012) studied web-based financial reporting by quoted companies on Qatar Exchange. Using an ordinary least regression to analyze 42 companies. The finding showed that web-based CVD had a relation with age of the firm, profitability, liquidity, size of the firm, complexity, and assets in place. They argued that size of the firm, assets base, and business complexity significantly explains web-based disclosure, whereas age of firm, liquidity and profitability are not significant.

Prior literature provide explanations for CVD, however some of the variables are not statistically substantial explanatory variables focusing on particular country (Uyar et al., 2013; Urquiza et al., 2010). According to Oliveira et al., (2006) company size and industry type are major determinants of CVD practices. On other hand, according to Urquiza et al., (2010), the size of firm is usually statistically significant regardless of disclosure attribute being studied due to economies of scale and easier access to capital markets. Other studies findings are also unpredictable across the countries-specific research, making it hard to determine their generalizability.

2.3 Conceptual Framework

Figure 2.1: Conceptual Model

Independent Variable

Dependent Variable

CORPORATE VOLUNTARY DISCLOSURE
- Forward-Looking Information
- Financial & Capital Market Information
- Corporate Governance Information
- Sustainability Information
- Corporate & Strategic Information
- Intellectual Capital Information

FIRM'S CHARACTERISTICS
- Company Size
- Industry Type
- Leverage

FIRM VALUE
- Tobin Q
- ROA

The research hypothesis tested in this study was:
Firm's characteristics has no significant moderating effect among corporate voluntary disclosure and the value of firm.

III. Research Methodology

3.1 Research Philosophy

This study employed positivist paradigm. According to Creswell (2009), scientific method or research which reflects a deterministic philosophy where causes possibly determines effects or outcomes are referred to as positivism. According to Cooper & Schindler, (2008) positivism paradigm is regarded as operational definitions, testing of hypothesis, causality, objectivity and reliability. This study was based on existing body of knowledge, review of literature from previous related studies, setting of hypotheses based on the existing pertinent theories, from which observations was deduced so as to be confirmed or refuted by quantitative and statistical methods. The positivist approach also relies on taking large samples hence the researcher studied the entire population so as to generalize the findings.

3.2 Research Design

The researcher adopted longitudinal research design. Longitudinal studies follows the same sample over an extended period of time and makes multiple observations (Ployhart & Vandenberg, 2010). It enables exploration of changes over-time and relates them to variables that clarifies why the changes occurs. Longitudinal research design provides a relatively full picture of the events over several time-period.

3.3 Target Population

Census method was selected because listed companies represent a small population and is possible to study the whole population (Kothari, 2004). Also the results based on this method are less biased as each and every unit of population is considered. Listed companies are required to release extra financial information

(unlike privately held companies, which do not fall under regulatory brackets) for the benefits of shareholders and for the potential investors (Agyei-Mensha, 2012). There are 66 listed companies on NSE as of December 2019 (CMA, 2019). The study targeted all listed companies whose stocks were actively traded on the Nairobi Security Exchange from 2010 to 2019. Out of the 66 firms that were targeted, 56 were analysed.

3.4 Data collection instruments and procedures

The study collected secondary data. Secondary data refers to data already available (data that has previously been collected and tabulated) (Kothari 2004). The study obtained its data from secondary sources (annual financial statements). This is because it is economical, easy to access and is much reliable because annual financial statement are audited. The financial statements were obtained from CMA websites and specific listed company's websites for ten-year's time period (2010 to 2019). The financial data from published financial reports were compared with data from NSE Hand book, this assisted in the verification of consistency and accuracy.

The study used disclosure index procedures to evaluate extend CVD in the annual financial reports of 56 listed companies for the period 2010-2019. CVD checklist comprises multiple measurement items based on broad literature review of survey instrument from prior studies and established guidelines. Data on company characteristics and firm value was obtained from the Annual reports using secondary data collection sheet.
This study operationalized the study variables as detailed in the table 3.3.

Table 3.1: Operationalization and Measurement of Study Variables

Variable	Operation Definition	Indicators	measurement	Researchers
Value of Firm	Objectives of shareholders interest	Firm value	$TQ = \dfrac{\text{Market Capitalization}}{\text{Total book value of assets.}}$ $ROA = \dfrac{\text{Profit after Tax (Net Income)}}{\text{Total book value of assets.}}$	Waweru, 2018; Hamrouni et al., 2015; Rikanovic 2005; Drobetz et al., 2004
Corporate Voluntary Disclosure	Disclosure beyond regulatory and legal requirement	CVD Attributes	Disclosure Score $= \sum_{t=1} \dfrac{X_{ij}}{n_{ij}}$ CVD was measured using 5 point likert scale ranging from "no disclosure" to "very extensive disclosure".	Khanna and Chahal 2019; Scaltrito 2016; Uyar et al., 2013; Coebergh 2011; Boesso and Kumar 2007 Striukova et al., 2008; Ticha' I 2008; Meritum et al., 2002
Firm's Characteristics	Size of the company	Firm Size	Logarithm of Total Assets	Injani et al 2019; Elfeky 2017; Uyar et al., 2013; Urquiza et al 2010; Hossain et al 2009; Hossain and Taylor 2007; Olivereira et al 2006; Eng and Mak 2003; Naser et al., 2002
	The sector of operation of the company.	Industry Type	Firm received value = 1 if of the sector of the Banking; 2 if of the sector of Commercials & Telecommunication; 3 if manufacturing & allied; 4 if Construction & allied; 5 if Insurance; 6 if Agriculture; 7 if Energy & petroleum and 8 if Investment & Investment services	
	Company's loan capital (debt) level	Leverage	Debt ratio to ordinary share value (equity).	

The moderating effect of firm characteristics on the relationship between CVD and firm value was established using multiple regression models.
To test hypothesis that firm's characteristics has no moderating influence on the association among corporate voluntary disclosure and firm value, casual step approach by Judd and Kenny (1981) and Baron and Kenny (1986) model was used.

$FV = ß_0 + ß_1\,CVD + \varepsilon$ ………………………………………..………..……………..…… (1a)

Regress FV on CVD to test $ß_1$ is significant

$FV = ß_0 + ß_1\,CVD + ß_2\,FXstics + \varepsilon$ …………………………………..………..…… (1b)

Regress FXstics on CVD to proof $ß_2$ is significant

$FV = ß_0 + ß_1\,CVD + ß_2\,FXstics + (ß_3\,FXstics * ß_4\,CVD) + \varepsilon$ ……..…………..… (1c)

Regress FV on CVD and FXstics to test $ß_1$ is significant and $ß_2$ is smaller

IV.   Data Analysis, Finding & Discussion

The empirical results comprise the results of descriptive statistical analysis, correlation analysis and panel data regression analysis.

4.1 Descriptive Statistical

According to Cooper & Schindler (2008), descriptive statistics provides initial analysis and guide the rest of the data analysis process. Descriptive statistics are univariate tests that denotes the total sample distribution of one variable at a time. They are divided into measure of central tendency (that is concerned with locating where values in a distribution tend to concentrate) and statistics that measure dispersion (that is concerned with how wide a distribution is) (Bryman and Cramer, 2005).

4.1.1 Corporate Voluntary Disclosure

Previous studies treat CVD as a whole. However, there exist different disclosure behaviour in different CVD category that may arise from manager's intentions or a diverse demands from stakeholders, and each type of CVD information has different characteristics. According to Khanna and Chahal (2019); Gray et al. (1995) and Meek et al. (1995), different CVD information category can be explained by different factors and resulted in different disclosure behaviour.

The study adopted a broad disclosure index in terms of items that considered 24 checklist statements using 5 point likert scales. The maximum score that a company was expected to score was 120. The score was categorized into three ranks of low cluster (0-40), middle cluster (41-80) and high cluster (81-120).

The results in Table 4.1 indicates the CVD score by year. The results indicates that the year 2010 had the lowest scores (mean= 34.30, standard deviation= 12.14) and the year 2019 had the highest score (mean= 48.13, standard deviation= 22.26). The results shows that adoption of CVD was low, but increased gradually from 2010 to 2019 with extend of CVD among forthcoming companies and those that are reluctant to embrace CVD also increasing as shown by standard deviation (spread).

Table 4.1: Corporate Voluntary Disclosure Score by Year

Year	Obs.	Mean	Std. Dev.	Std. Err.	(95% Conf. Interval)		Min	Max
2010	56	34.30	12.14	1.62	31.12	37.49	10.00	63.00
2011	56	34.68	12.53	1.67	31.39	37.97	10.00	69.00
2012	56	35.54	12.82	1.71	32.17	38.90	10.00	69.00
2013	56	36.11	13.32	1.78	32.61	39.60	10.00	69.00
2014	56	37.01	14.22	1.90	33.28	40.74	10.00	69.00
2015	56	38.88	16.18	2.16	34.63	43.12	10.00	74.67
2016	56	43.53	17.40	2.33	38.96	48.10	16.00	83.67
2017	56	47.37	18.71	2.50	42.46	52.28	16.00	82.67
2018	56	46.95	21.39	2.86	41.33	52.56	0.00	79.67
2019	56	48.13	22.26	2.97	42.28	53.97	0.00	84.67

4.1.2 Firms Characteristics

This section presents the analysis of the firms' characteristics of listed companies. The mean for long term debt, total assets and ordinary equity capital for the period 2010 to 2019 are presented. The result in table 4.2 shows that totals assets, long term debt and ordinary equity increased steadily within the study period.

Table.4.2: Firms specific Characteristics

Year	Total Asset (BK Value Fig 000)	Long Term Debt Fig 000	Ordinary Equity Fig 000
2010	38,579,621.63	3,498,936.46	8,137,450.02
2011	45,740,909.30	6,509,664.17	8,236,679.63
2012	51,927,418.45	6,797,061.25	8,390,088.41
2013	60,160,764.64	8,434,495.65	9,855,054.43
2014	71,309,972.23	9,851,789.89	9,938,930.80

2015	82,699,246.61	11,927,334.80	9,969,158.43
2016	88,065,939.68	12,594,005.65	10,171,662.73
2017	95,357,905.04	11,421,695.06	10,180,719.75
2018	106,602,669.21	10,603,335.71	10,734,098.74
2019	123,768,426.08	11,621,458.72	11,062,968.38
Total	**75,915,079.87**	**9,274,537.69**	**9,651,803.37**

Figure 4.1 indicate the firm characteristics trend from 2010 to 2019. The results indicates that firm characteristics had a slow positive growth trend. With 2016 having the highest score in terms of firm characteristics.

**Figure 4.1: Firm Characteristics Trend**
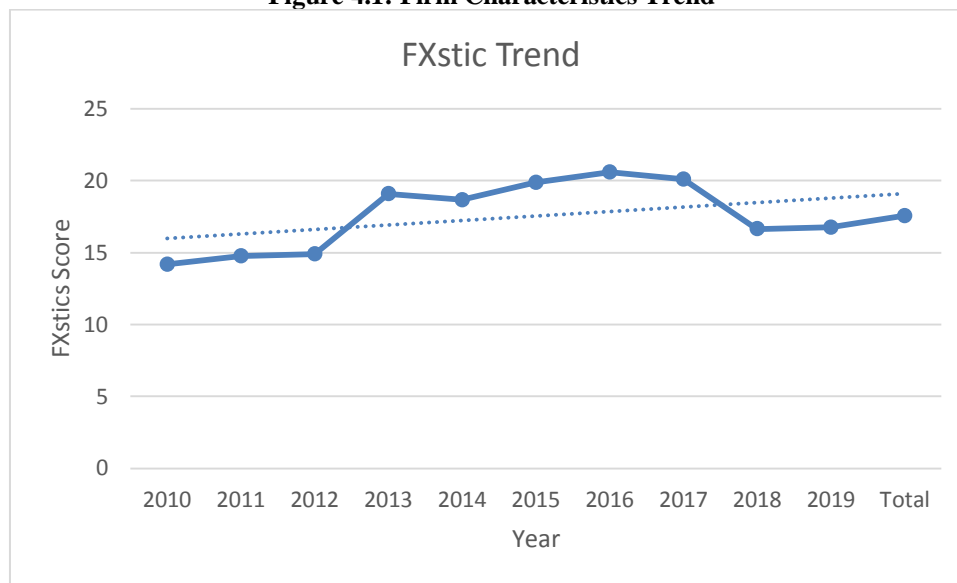
4.1.3 Firms Value

This section presents the analysis of the value of firms listed at NSE. Firm value was measured using two measures return on assets and Tobin Q ratio. ROA indicates profitable of firm in relation to its total assets. Return on assets provides an understanding as to how company's managers' efficiently puts to use its assets to generate earnings. A higher ROA indicate more asset efficiency. Whereas, Tobin Q describe a condition of investment opportunities owned by the company or the firm growth potential. Tobin Q above 1 means that the firm is worth more than the cost of asset and vice versa (Wahba, 2008). The mean score for ROA and Tobin's Q for the period 2010 to 2019 are provided. Table 4.19 shows mean score for ROA and TQ were 3.92 and 0.94 respectively. The result indicated that TQ ratio was highest in 2015 and lowest in 2011 while average ROA declined steadily within the study period.

Table 4.19: Firm Value ROA and TQ Trend

YEAR	TQ	ROA
2010	0.8526	7.658
2011	0.5162	6.5086
2012	0.8303	6.3961
2013	1.1064	6.5268
2014	1.4597	4.4435
2015	1.6717	3.5068
2016	1.1221	2.9979
2017	0.6698	1.6565
2018	0.6186	0.8608

2019	0.5376	-1.3649
Total	**0.9385**	**3.919**

Figure 4.12: ROA and TQ Trend
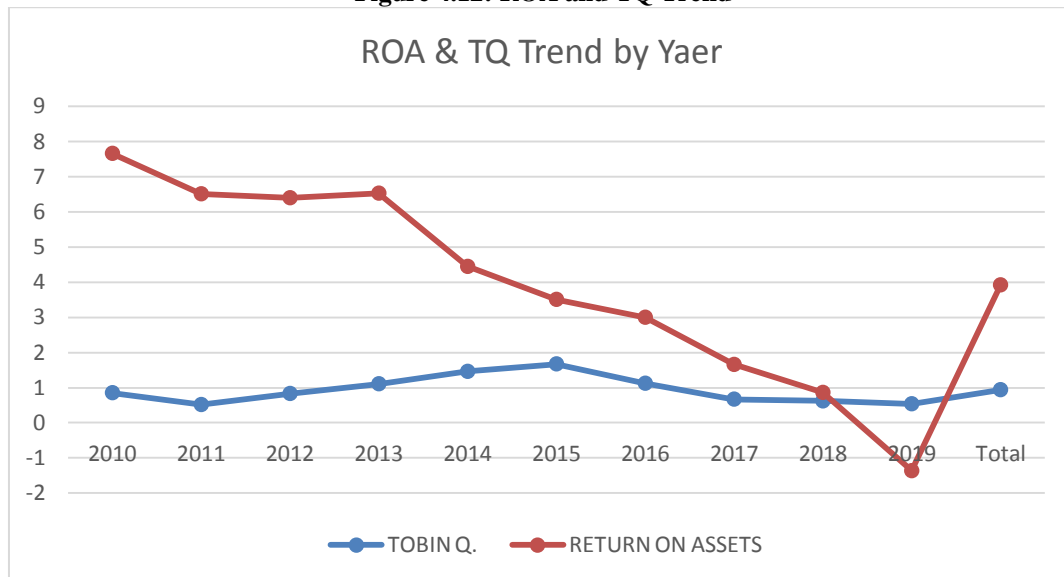
Univeriate Analysis

The three selected variables for this study are represented by FV, CVD and FXstics representing Firm Value, Corporate Voluntary disclosure score and Firms characteristics of listed companies. The variables when subjected to normality testing the results showed that the variables were not drawn from a normal population. Therefore, non-parametric correlation test (spearman rank correlation) was conducted to establish extend of association among the variables.

Table 4.3: Spearman Rank Correlation Matrix

```
spearman CVD FXstics TQ ROA, star(0.05) (obs=560)
        |   CVD    FXstics   TQ      ROA
    CVD | 1.0000
 FXstics| 0.1592*  1.0000
     TQ | -0.0473  -0.2099*  1.0000
    ROA | -0.0144  -0.0614   0.4542*  1.0000
```

The results in table 4.3 shows dependent variable (ROA and TQ) had no higher degree of correlation with independent variables (CVD, FXstics). The dependent variables FV (ROA) was negatively correlated with CVD and FXstics with values of 0.0144 and 0.0614 respectively. In term of dependent variables FV (TQ) exhibited a negative correction of 0.0473 and 0.2099 with CVD and FXstic respectively. The test for correlation was also conducted amongst the independent variables themselves. The study reveals that CVD are positively related with FXstics with the value of 0.1592.

4.2 Hypothesis Testing & Discussion

First, fixed effect model of panel analysis was conducted to understand the moderating effect of firm characteristics on relations between CVD and firm value. Second, random effect model of panel regression using GLS was carried out to establish the moderating effect of firm characteristics on relations between CVD and firm value across the time period. Lastly, in order to determine the applicability of the random-effect and the fixed-effect in the data set, hausman test was carried out.

When Hausman test was run the results showed that to ascertain the effect of CVD on ROA, fixed-effect model is appropriate in the data set. The fixed-effect model of panel regression was carried out to establish the influence of CVD on ROA. Table 4.4 presents the results of influence of CVD on ROA with (p value of 0.002) the results shows that CVD individually has significant effect on ROA.

Table 4.4: Fixed-effect of panel regression (Effect of CVD on ROA).

Fixed-effects (within) regression				Number of obs		=	560
Group variable: YEAR				Number of groups		=	10
R-sq:				Obs per group:			
Within = 0.0170						Min =	56
Between = 0.9040						Avg =	56.0
Overall = 0.0030						Max =	56
				F(1,549)		=	9.49
corr(u_i, Xb) = - 0.3005				Prob > F		=	0.0022

ROA	Coef.	Std Err.	t	P > |t|	[95% Conf. Interval]	
CVD	.0971199	.0315274	3.08	0.002	.0351908	.1590489
_cons	.0100908	1.36942	0.01	0.994	-2.679853	2.700034
sigma_u	3.4559397					
sigma_e	12.185394					
rho	.07444815		(fraction of variance due to u_i)			

F Test that all u_i=0: F (9, 549) = 4.10	Prob > F = 0.0000

4.5.5 The effect of Firms Characteristics in moderating the relationship between CVD and Firms Value (ROA)

To establish the moderating role of company characteristics on relation among CVD on ROA, fixed-effect model was run. Table 4.5 shows the findings of moderating influence of firm characteristics on relation among CVD on ROA with (p-value of 0.0071) the findings shows that CVD and FXstics significantly influence ROA of listed companies.

Table 4.5: Fixed Effect panel regression (Impact of CVD and FXstics on ROA).

Fixed-effects (within) regression				Number of obs		=	560
Group variable: YEAR				Number of groups		=	10
R-sq:				Obs per group:			
Within = 0.0179						Min =	56
Between = 0.8988						Avg =	56.0
Overall = 0.0038						Max =	56
				F(2,548)		=	5.00
corr(u_i, Xb) = -0.2874				Prob > F		=	0.0071

ROA	Coef.	Std Err.	t	P > |t|	[95% Conf. Interval]	
CVD	.0986829	.0316171	3.12	0.002	.0365773	.1607885
FXstics	-.0220106	.0307915	-0.71	0.475	-.0824945	.0384734
cons	.3336216	1.442855	0.23	0.817	-2.500582	3.167825
sigma_u	3.4440711					
sigma_e	12.190825					
rho	.07391442		(fraction of variance due to u_i)			

F-test that all u_i=0: F(9, 548) = 4.06	Prob > F = 0.0000

To understand the moderating effect of firm characteristics on relation between CVD and ROA, a random-effect of panel regression using GLS techniques was conducted. Table 4.6 presents the results of moderating effect of firm characteristics on relation between CVD and ROA with (p-value of 0.2966). The results shows that CVD and FXstics does not significantly influence ROA.

Table 4.6: Random Effect panel regression (Impact of CVD and FXstics on ROA).

Random-effects GLS regression					Number of obs	=	560
Group variable: YEAR					Number of groups	=	10
R-sq:					Obs per group:		
Within	= 0.0155				Min	=	56
Between	= 0.8429				Avg	=	56.0
Overall	= 0.0043				Max	=	56
					Wald chi2 (2)	=	2.43
corr(u_i, X) = 0 (assumed)					Prob > chi2	=	0.2966

ROA	Coef.	Std Err.	z	P > |z|	[95% Conf. Interval]	
CVD	.0420077	.0308111	1.36	0.173	-.018381	.1023964
FXstics	-.027105	.0312869	-0.87	0.386	-.0884263	.0342163
cons	2.704139	1.416199	1.91	0.056	-.0715597	5.479837
sigma_u	0					
sigma_e	12.190825					
rho	0			(fraction of variance due to u_i)		

Table 4.7 presents the results of Hausman test. The chi-square statistics of 61.59 with (p-value of 0.0001) shows that the alternative hypothesis be accepted. The results shows that to determine the moderating effect of the relation between CVD and ROA, the fixed-effect model is appropriate for data set.

Table 4.7: Hausman Test for fe/re panel regression (Effect of CVD and FXstics on ROA).

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fe	re	Difference	S.E.
CVD	.0986829	.0420077	.0566752	.0070934
FXstics	-.0220106	-.027105	.0050944	.

b   = consistent under Ho and Ha; obtained from xtreg

B   = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$chi2(2) = (b-B)'[(V\_b-V\_B)^{(-1)}](b-B)$$

$$= 61.59$$

Prob > chi2 =   0.0000

(V_b-V_B is not positive definite)

Table 4.5 indicates the effect of CVD on ROA as moderated by FXStics. The results indicates that coefficient of determination (R^2) increased by 0.0008 from 0.003 which implied that FXStics had moderating effect. The F. change was statistically significant because the P-value of 0.002 was less than 0.05 significant level and coefficient of FXstic is smaller.

On moderating effect by the FXStics, the CVD explained 0.38 percentage of ROA variation. The remaining 99.62 percentage is explained by factors not covered in this study. The constant and the FXStics coefficient were statistically significant but CVD was insignificant.

ROA= 0.3336 +0.0987 CVD - 0.022 FXStics

This implies that a unit marginal change in CVD and FXstics results in additional of 0.0987 and reduction by 0.022 to ROA respectively.

The overall test of significant using F-value statistics after moderating effect was 5.00 with (p-value of 0.0071) which was statistically significant at 0.05 significance level. Therefore, the alternative hypothesis that FXStics has moderating effect on relation between CVD and firm value with respect to ROA at 0.05 level of significant was accepted.

4.5.5 The effect of Firms Characteristics in moderating the relationship between CVD and Firms Value (TQ)

When Hausman test was run the results showed that to ascertain the effect of CVD on TQ, fixed-effect model is appropriate in the data set. The fixed effect model of panel regression using least square technique of estimation was conducted to understand the effect of CVD on TQ. The results in table 4.8 indicates that CVD (p value of 0.031) on an average at an individual level significantly influence TQ of listed companies.

Table 4.8: Fixed-effect panel regression (Effect of CVD on TQ).

Fixed-effects (within) regression			Number of obs	=	560
Group variable: YEAR			Number of groups	=	10
R-sq:			Obs per group:		
Within = 0.0085			Min =		56
Between = 0.1092			Avg =		56.0
Overall = 0.0096			Max =		56
			F (1,549)	=	4.68
corr(u_i, Xb) = 0.0194			Prob > F	=	0.0309

TQ |	Coef.	Std Err.	t	P > |t|	[95% Conf. Interval]	
CVD |	-.0190017	.0087805	-2.16	0.031	-.0362493	-.0017542
Cons |	1.703305	.3813899	4.47	0.000	.9541432	2.452467

sigma_u |	.37347546	
sigma_e |	3.3936906	
rho |	.01196607	(fraction of variance due to u_i)

F-test that all	u_i=0: F(9, 549) = 0.68	Prob > F =	0.7292

To test the objective of establishing the moderating influence of firm characteristics on association among CVD and firm value., the null hypothesis (H_2); firm characteristics has no moderating influence on relationship between CVD and firm value with respect to TQ of listed companies was tested.

The fixed-effect model of panel regression was carried out to determine the moderating effect of FXstics on the relation between CVD and TQ. Table 4.9 presents the results of the moderating effect of FXstics on the relation between CVD and TQ with (p-value of 0.0473). The results shows that CVD and FXstics does not significantly influence TQ.

Table 4.9: Fixed effect panel regression (CVD and FXstics on TQ).

Fixed-effects (within) regression			Number of obs	=	560
Group variable: YEAR			Number of groups	=	10
R-sq:			Obs per group:		
Within = 0.0111			Min =		56
Between = 0.0306			Avg =		56.0
Overall = 0.0112			Max =		56
			F (2,548)	=	3.07
corr(u_i, Xb) = -0.0351			Prob > F	=	0.0473

TQ |	Coef.	Std Err.	t	P > |t|	[95% Conf. Interval]	
CVD |	-.0182697	.008798	-2.08	0.038	-.0355516	-.0009877
FXstics |	-.010309	.0085683	-1.20	0.229	-.0271397	.0065217
cons |	1.854836	.4014994	4.62	0.000	1.06617	2.643502

sigma_u |	.3916227	
sigma_e |	3.3923081	
rho |	.01315211	(fraction of variance due to u_i)

F-test that all	u_i=0: F(9, 548) = 0.74	Prob > F = 0.6735

To understand the moderating effect of FXstics on relation between CVD and TQ, a random-effect of panel regression using GLS techniques was carried out. Table 4.10 presents the results of moderating effect of FXstics on relation between CVD and TQ with (p-value of 0.0419). The results shows that CVD and FXstics does not significantly influence TQ.

Table 4.10: Random effect panel regression (CVD and FXstics on TQ).

Random-effects GLS regression				Number of obs	=	560	
Group variable: YEAR				Number of groups =		10	
R-sq:				Obs per group:			
Within	= 0.0110				Min =	56	
Between	= 0.0437				Avg =	56.0	
Overall	= 0.0113				Max =	56	
				Wald chi2 (2)	=	6.34	
corr(u_i, X) = 0 (assumed)				Prob > chi2	= 0.0419		
TQ	Coef.	Std Err.	z	P > |z|	[95% Conf. Interval]		
CVD	-.0187446	.0083514	-2.24	0.025	-.0351131	-.0023762	
FXstics	-.0080914	.0084804	-0.95	0.340	-.0247127	.0085298	
cons	1.835018	.3838632	4.78	0.000	1.08266	2.587376	
sigma_u	0						
sigma_e	3.3923081						
rho	0			(fraction of variance due to u_i)			

Table 4.11 presents the results of Hausman test. The chi-square statistic of 3.55 with (p-value of 0.1694) shows that the null hypothesis be accepted. The results of the moderating effect of FXstics on relation between CVD and TQ, a random-effect model is appropriate for the data set.

Table 4.11: Hausman Test for fe/re panel regression (Impact of CVD and FXstics on TQ).

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fe	re	Difference	S.E.
CVD	-.0182697	-.0187446	.000475	.0027675
FXstics	-.010309	-.0080914	-.0022176	.0012242

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\text{chi2(2)} = (b-B)'[(V\_b-V\_B)^{\wedge}(-1)](b-B)$$
$$= 3.55$$
$$\text{Prob} > \text{chi2} = 0.1694$$

Table 4.10 indicates the effect of CVD on TQ as moderated by FXstics. The results indicates that coefficient of determination (R^2) increased by 0.0017 from 0.0096 which implied that FXstics had moderating effect. The F. change with (P-value of 0.025) was statistically insignificant at 0.05 significant level and coefficient of CVD is bigger. On moderating effect by the FXstics, the CVD explained 1.13 unit points of TQ variation. The remaining 98.87 unit points is explained by factors not considered in this study. The constant and CVD coefficient were not statistically significant but FXstics was significant.

TQ= 1.835 -0.0187 CVD - 0.0081 FXstics

This implies that a unit marginal change in CVD and FXstics results in reduction of 0.0187 and 0.0081 to TQ respectively.

The overall test of significant using F-value statistics after intervening effect was 6.34 with (P. value of 0.0419) which was statistically significant at 0.05 significance level. Therefore, null hypothesis that FXStics has no moderating effect on relation between CVD and firm value with respect to TQ at 0.05 level of significant was rejected.

V. Conclusion

The research generally aimed at determining the effect of firm's characteristics in moderating the relations among CVD and firm value. Previous studies have explored factors that have potential effect on CVD practices. They argued that the extent and type of CVD differs significantly among firms due to different firm characteristics (Core, 2001). The focus on the firm value was motivated by prior research selection of various constituent of firm value as route by which CVD affects firm value. However, company value is a comprehensive summary variable that possess all costs and benefits, whether directly or indirectly (Opanyi, 2019).

Firm's characteristics influences the strength of the relations among corporate voluntary disclosure and firm value measured using ROA and TQ. Firm's characteristics influences management incentives to embrace CVD which is in line with stakeholder's theory. The theory posit that firm's characteristics determines the number and type of stakeholder's to firm's systems of value creation that affects its total value created. The theory assumes that firms do not have homogeneous set of stakeholders and company must meet information requirement of diverse set of users with complex demand and supply to realize resources driven by all the stakeholders in long-term. The findings is also in line with agency theory that assumes that the rise in agency cost are in proposition with the rise in external financing associated with big firms.

Given the crucial role of CVD, a number of researcher have conducted studies to ascertain determinants of CVD practices. The findings of this study contribute to knowledge on corporate voluntary disclosure, firm's characteristics, and firm value. The established moderating role of firm's characteristics on the relationship between CVD practice and firm value. The mixed research findings are likely to reflect, due to, differences in social, political and economic environments between nations, differences in methodology and measurement of the study variables. The study limited itself to firm's characteristics and in particular firm size, leverage and industry type as moderating the relationship between CVD and firm value, The study also limited itself to listed firms in Kenya's context.

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