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# The Impact of Voluntary Disclosure on Firm's Value: Evidence from Manufacturing Firms in Bangladesh

Md. QAMRUZZAMAN<sup>1</sup>, Ishrat JAHAN<sup>2</sup>, Salma KARIM<sup>3</sup>

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## Abstract

Financial reporting includes disclosures as prescribed by regulators, but few companies go beyond mandatory requirements and provide additional information voluntarily. This study evaluates the potential impact of voluntary information disclosure on the value of firms listed on the Dhaka Stock Exchange for the period 2017–2019. The study applies GLS and system-GMM (Two-stage) estimation for detecting the magnitude of voluntary disclosure information on the firms' value. Study findings reveal a positive and significant relationship between voluntary disclosure relating to financial statistics, social responsibility information, corporate governance, and the firms' value as measured by Tobin's Q. However, there is a negative and significant relationship between company information, accounting policies, and the firms' value as measured by Tobin's Q. Study findings suggest that the impact of voluntary disclosure on the value of the firms varies with the appropriate selection of proxy measures. Nonetheless, it is believed that voluntary disclosure plays a major role in projecting a clean image in the market and in attracting potential investors with a positive note about the company's prospects.

**Keywords:** Voluntary Disclosure, Firm's Value, Two-stage GLS, System-GMM

**JEL Classification Code:** C23, M40, M48

## 1. Introduction

Voluntary disclosure benefits investors, companies, and the economy; for example, it helps investors make better capital allocation decisions and lowers firms' cost of capital, the latter of which also benefits the general economy. It may also reduce conflicts of interest in widely held firms. Voluntary disclosure is also affected by shareholder demands, for example, 60 percent of the companies on the S&P 100 adopted voluntary disclosure

policies in response to shareholder demand for information on corporate political spending (Dhaliwal et al., 2011). Voluntary disclosure is the provision of information by a company's management beyond requirements such as generally accepted accounting principles and Securities and Exchange Commission rules, where the information is believed to be relevant to users' decision-making's annual reports (Al-Akra & Ali, 2012). Any financial and non-financial information disclosed by management beyond mandatory financial reports is considered voluntary disclosure. Voluntary disclosures can comprise strategic information like product, competition, customers; financial information like management earnings forecast, stock price; and non-financial information like environmental, social, and governance sustainability performance (Li & Yang, 2016).

All public companies are required to meet the minimum disclosures; they differ substantially in terms of the amount of additional information that is disclosed to the capital markets. One way to improve the credibility of the company is through voluntary disclosure widely and assist investors in understanding the business strategy management. Companies that make voluntary disclosures freely choose to provide other accounting information deemed relevant

<sup>1</sup>First Author and Corresponding Author. Associate Professor, School of Business and Economics, United International University, Bangladesh [Postal Address: Madani Avenue, United City, Dhaka, 1212, Bangladesh]  
Email: zaman\_wut16@yahoo.com; qamruzzaman@bus.uui.ac.bd

<sup>2</sup>Assistant Professor, School of Business and Economics, United International University, Dhaka, Bangladesh.  
Email: ishrat\_jahan@bus.uui.ac.bd

<sup>3</sup>Professor, School of Business and Economics, United International University, Dhaka, Bangladesh. Email: ska@bus.uui.ac.bd

in supporting decision-making by users of annual reports (Banghøj & Plenborg, 2008). Examining the relationship between voluntary disclosure and company performance is crucial to the stakeholders to judge the company quality and value. Quality and level of voluntary disclosure decisions lead to the reporting of relevant information about firm performance. Thus, the quality and value-related disclosure help the company stakeholders like analysts and investors to foretell future earnings (Verrecchia, 1983). The voluntary aspect allows management discretion in deciding the content of information to disclose. Recent studies reveal that the edifying role of voluntary disclosure reduces the cost of capital (Dhaliwal et al., 2011; Francis et al., 2008; Karamanou & Nishiotis, 2009) and increases the firm value (Cheung et al., 2010; Hassan & Mohd-Saleh, 2010; Lajili & Zeghal, 2006). The empirical study findings of Hamrouni et al. (2015) revealed that there is a positive relationship between voluntary disclosure variables and performance measures. They provide evidence that the depth of voluntary information disclosed in annual reports plays a significant signaling role in firm performance. However, this role's extent depends on the voluntary disclosure's nature, i.e., strategic, financial, or corporate governance information. Hassan et al. (2009) specify that voluntary corporate disclosure lessens the gravity of uncertainty surrounding firm growth perspectives and facilitates share trading. Corporate disclosure has been identified as one of the most fundamental elements contributing to good Corporate Governance. Voluntary disclosure increases the transparency of the company that reduces the information asymmetry between insiders and outsiders. This could promote management accountability and reduce the monitoring costs of investors. While this type of disclosure may not be mandatory, it is recommended as best practice.

According to a study by Ho and Wong (2001), the firm and hence the economy suffers due to loss of investor confidence and a lack of effective corporate governance and transparency, which is very much related to disclosure of financial and other voluntary information. The effective functioning of capital markets depends on how information is shared among the participants. In recent years, the quality of information disclosure in companies' annual reports has attracted considerable interest among scholars. Some companies disclose the information stipulated by local governance regulations, but there may be costs and benefits for disclosing additional financial information. By increasing the amount of information that companies release to the public, companies can lower their capital costs, gain investor confidence, and improve shares' marketability (Meek et al., 1995).

The study's aim is to evaluate the impact of voluntary disclosure on the firms' value for the period spanning 2017–2019 by applying generalized least square and two-step system GMM estimation. Study's findings

are yet to produce a conclusive association between voluntary disclosure and firm value, implying that different voluntary disclosure and proxies for measuring firm values establish an inconsistent association in both estimations. However, in most cases, voluntary disclosure relating to corporate governance, financial statistics, and social responsibility activities reveals a positive and significant association with the firms' value. At the same time, company information and accounting policies disclose mixed effects between voluntary disclosure and firms' value.

The paper's remaining structure is as follows: Section II contains a literature survey focusing on voluntary disclosures' impact on the firm's value. The study report's data and methodology in Section III, empirical model estimation, and interpretation available in Section IV. The discussion of the empirical findings display in Section V and finally, the conclusion in Section VI.

## 2. Literature Review

Since the corporate meltdown began, federal and state regulators have initiated criminal fraud investigations involving dozens of corporations, including Enron, WorldCom, Adelphia, HealthSouth, McKesson, and Qwest. To date, some ninety corporate owners, executives, and employees have been criminally charged, and the investigations are ongoing. Lack of full disclosure on the activities of the company has left shareholders at risk of manipulated earnings as recently witnessed in rising cases of scandals, frauds, suspension, and even delisting (Barako et al., 2006). According to Jensen and Meckling (1976), the agency theory is based on the relationship between principals and agents. In economics, this theory comes as a result of the separation between business ownership and its management. In the relationship between principal, and agent we face the problem of the existence of asymmetric information and risk aversion. Under this relationship, managers (agents) can access information more than the shareholders (principals). Voluntary disclosure serves to reduce the agency problem (Barako et al., 2006). The effects of voluntary disclosure have been studied theoretically and empirically and yet to establish a conclusive association between voluntary information disclosure and firm value. However, existing empirical studies produce three direction lines: positive linkage, negative association, and no effect between VD and firms' value.

The first line of evidence suggests the information disclosure positively assists in increasing the value of the firm (Hossain et al., 2005; Siueia et al., 2019; Plumlee et al., 2015). Society has been imposing standards of ethical behavior on corporations, above all as regards the degree of transparency of information about their activities being made available to the public (Da Silva & de Lira

Alves, 2004). Hossain et al. (2005) found that investment opportunities (IOS) are positively and significantly affected by disclosure of future-oriented information (DISCOR). Through using the Global Reporting Initiative disclosure framework, Plumlee et al. (2015) documented that future expected cash flows and cost of capital are positively associated with voluntary information disclosure quality (VEDQ). Oeyono et al. (2011) established that there is a positive relationship between CSR and profitability, although it is weak (i.e. EBITDA and EPS) using GRI's six indicators. That means companies can achieve higher benefits if they disclose information voluntarily on socially responsible issues. In a study, Hossain et al. (2015) argued that companies in Bangladesh perform social and environmental activities to meet powerful stakeholders' needs and maintain legitimacy. They found a positive association between voluntary disclosure on CSR and corporate performance. Resmi et al. (2018) in their research on Bangladesh's agribusiness industries revealed that return on equity (ROE) and net income have a significant impact on financial performance favoring those firms that do Corporate Social Responsibility. Issuance of CSR report and corporate donation are positively associated with improved firm performance (Cheng et al., 2016).

Nor et al. (2016) and Xie and Ward (2019) found that voluntary disclosure on environmental improvement can positively affect firm performance. Albawwat et al. (2015) argued that 22 out of 72 companies made voluntary disclosure which enhanced their performance, and 50 companies had no relation between disclosure and performance. Mutiva et al. (2015) showed a strong positive relationship between voluntary disclosure and financial performance. Wu et al. (2020) observed that corporate environmental performance (CEP) positively affects firm performance, and technological capability mediates the relationship. Siueia et al. (2019) also found a positive association between voluntary CSR disclosure and banks' performance. Choi et al. (2010) and Liu (2020) found an overall positive relationship between environmental and financial performance with variations across companies and industries due to the company- and industry-level heterogeneities.

The second line to findings explain the negative association between a company's information and firm performance. In their respective study, Sengupta (1998) and Talbi and Omri (2014) confirmed the existence of a negative and significant relationship between the frequencies of voluntary disclosure on the cost of debt. Toukabri Mohamed and Faouzi (2014) and Baimukhamedova et al. (2017) found that the higher the voluntary disclosure level, the lower the equity capital cost.

Finally, some studies found no association between information disclosure and the value of the firm. Brine et al. (2007) defined that voluntary disclosure of corporate social

responsibility has no significant impact on firm performance. Islam et al. (2012) established no strong evidence to prove that CSR banks are better performers than Non-CSR banks in Bangladesh. Abd Rahman et al. (2017) argued that voluntary disclosure on carbon emission does not impact the firm's cost of capital. Krisdayanti and Wibowo (2019) revealed that voluntary disclosure does not affect firms' performance. Voluntary disclosure on environmental issues does not have an effect on company performance (Aras et al., 2010; Elsayed & Paton, 2005; Utomo et al., 2020). Hagberg et al. (2015) and Neeveditah et al. (2017) found that environmental management practices do not affect firm performance. One of the determinants of voluntary disclosure study is the corporate governance characteristics for listed companies. We found these characteristics are several and have mixed (positive, negative, or no) impact on firm performance. A few of the previous researches on this issue are shown on Table 1.

### 3. Methodology

#### 3.1. Sample and Data Collation

The study considers a panel of 26 manufacturing firms listed on the Dhaka stock exchange for the period spanning 2017–2019. All the relevant data was extracted from the company's publically available annual reports. Following existing empirical literature, dummies were considered for specifying the availability of proxy measures in the study. More precisely, if the required information is available in annual reports, specify with 1 otherwise 0. Once the information list is obtained, we determine the average value of each indicator of VD for every firm.

#### 3.2. Measures of Firm Value

Suppose the company is deemed to be an investment opportunity, in that case, its valuation relies on the profits it gives to the owner. Consequently, firm value is the cumulative present value of all profits likely to be produced throughout a business venture. In other terms, firm value is the current benefits, and the possible benefits that a business may produce. In the empirical literature, several proxies were used in measuring firm value such as the return of assets (ROA), return on Equity (ROE), earning per share (EPS), Market value of assets (MVA), Market capitalization and so on. However, in this study, we considered three measures of firm value. *First*, Tobin's Q ratio is assumed to represent a firm's investment or growth opportunities, derived from the ratio between a physical asset's market value and its replacement value. (Varaiya et al., 1987). We estimate the Q ratio using data available in the financial statement. Common stock's market value is obtained from the firm's fiscal year-

**Table 1:** Summary of Literature Survey

Author	Country	Year	Findings
Da Silva and De Lira Alves (2004)	Argentina, Brazil, and Mexico	2002	Positive relationship
Sengupta (1998)	U.S.A	1987–91	Negative relationship
Rashid et al. (2010)	Bangladesh	2005–2009	outside (independent) directors cannot add potential value to the firm's economic performance. A negative relationship with the board size of the company.
Krisdayanti and Wibowo (2019)	Indonesia	2012–2014	No relationship
Talbi and Omri (2014)	Tunisia	1998–2004	Negative relationship
Hossain et al. (2005)	New Zealand	1991–1995	Positive relationship
Utomo et al. (2020)	Indonesia	2012–2018	No relationship.
Das (2017)	Bangladesh	2007–2016	Negative relationship
Mutiva et al. (2015)	Kenya	2011–2013	Strong positive relationship
Toukabri Mohamed and Faouzi (2014)	Tunisia	2003–2011	Negative and significant relationship
Nor et al. (2016)	Malaysia	2011	Significant relation between environmental disclosure and profit margin. No significant relation between ROA, ROE, and EPS.
Abd Rahman et al. (2017)	Malaysia	2013–2014	No relationship
Uwuigbe (2011)	Nigeria	2006–2008	Board size and proportion of non-executive directors have a negative relationship. Directors' equity interest, level of governance disclosure have a positive and significant relationship.
Suyono (2016)	Indonesia	2009–2013	The family-controlled firm has a positive influence. Managerial ownership has a positive and significant effect on CP. Institutional ownership, Audit Committee, Board of directors, Independent board of commissioners show no significant relationship.
Baimukhamedova et al. (2017)	Kazakhstan	2008–2014	Can reduce their cost of equity capital by increasing the level of their voluntary corporate disclosures.
Rouf (2011)	Bangladesh	2006	No significant relationship between board size and board audit committee. Positive and significant relation with independent director and CEO duality.
Liu (2020)	U.S.A	2005–2014	Positive relationship
Siueia et al. (2019)	Mozambique and the Republic of South Africa	2012–2016	a significant and positive relationship and CSR behavior is helpful to improve the performance of banks The Republic of South Africa banks are slightly overperforming Mozambican banks, and the Republic of South Africa banks are disclosing more information regarding CSR than Mozambican banks.
Bhuyan (2018)	Bangladesh	2011–2013	The positive and significant relationship
Plumlee et al. (2015)	U.S.A	2000–2005	Positive relationship
Brine et al. (2007)	Australia	2005	No significant relationship

**Table 1:** (Continued)

Author	Country	Year	Findings
Rahman and Saima (2018)	Bangladesh	2011–2016	Positive relation with board size. No significant relation between board independence and female directors.
Islam et al. (2012)	Bangladesh	Reputation index to measure corporate social performance	No relationship
Hossain et al. (2015)	Bangladesh	2008–2012	Positive and significant relationship using ROA and ROE. Insignificant relationship using Tobin's Q.
Resmi et al. (2018)	Bangladesh	2015–2017	No impact on ROA & EPS. Significant impact on ROE & net income.
Cheng et al. (2016)	China	2008–2009	Positive relationship
Nazar (2016)	Sri Lanka	2013	Significantly negative relationship
Oeyono et al. (2011)	Indonesia	2003–2007	A very weak positive relationship
Aras et al. (2010)	Turkey	2005–2007	No significant relationship between corporate social responsibility and financial performance/profitability
Albawwat et al. (2015)	Jordan	2009–2013	Positive & significant relationship
Elsayed and Paton (2005)	UK	1994–2000	Neutral impact
Choi et al. (2010)	Korea	2002–2008	Positive and significant relation when stakeholder-weighted CSR index is used. No relation when equal-weighted CSR measure used
Wong (2018)	Malaysia	2008–2016	No significant relation
Nor et al. (2014)	Malaysia	2009–2010	Significant relation between board size and firm performance. No relation between proportions of independent non-executive directors to firm performance.
Neeveditah et al. (2017)	Mauritius	2011–2014	No significant relation.
Wu et al. (2020)	Pakistan	2008–2017	Positive relationship
Yasser et al. (2015)	Pakistan	2007–2011	No significant relationship between CEO duality and firm performance, but CEO qualification and CEO affiliation are positively associated with firm performance.
Wasim (2017)	Palestine	2008–2015	Board size and CEO duality have a negative and significant impact on firm performance. Independent directors have a positive and significant impact on firm performance.
Xie and Ward (2019)	China	2016–2017	Positive relationship
Abdullah (2016)	Malaysia	2009–2011	No impact of Board independence, CEO Duality, the busyness of independent and non-executive directors, number of board meetings, independence of the nomination committee. The positive impact of board size.
Hagberg et al. (2015)	Sweden	2006–2009	No significant relationship between CSR performance and firm performance.

end stock price, and shares outstanding and debt are assumed to have a market value equal to book value. Replacement cost is estimated from its assets' book value (Dang et al., 2020). To measure firm value, we follow prior research and use Tobin's Q, defined as its market value to its assets' replacement cost (Srinivasan & Hanssens, 2009). Tobin's Q captures both a firm's market value and possible effects of intangible assets changes from advertising expenditures (McAlister et al., 2016). Tobin's Q ratio, according to Lin (2010), is determined as below:

$$\text{Tobin's Q} = \frac{\text{Market capitalization} + \text{net debt}}{\text{Book value of assets}}$$

Voluntary disclosure as an independent variable of the study is measured by five key information discloser, namely, disclosure pertinent to basic company information, report focusing on corporate governance of the company; details of financial reporting; key activities for ensuring responsibility to society; and existing accounting practices in the firm. The detailed measurement of VD reports in Table 2.

To gauge the impact of voluntary disclosure on firm value, the study used two dimensions for the panel data observation: a cross-sectional dimension  $I$  and a time-series dimension  $(t)$  (De Hoyos & Sarafidis, 2006). An important purpose in combining time-series and cross-section data is to control for individual-specific unobservable effects

**Table 2:** Variables Measures Indicators with the Empirical Literature

Background of the Company	Literature Reference
A brief history of the company	
Description of corporate structure	
Description of major goods/services produced/provided	
Official address/registered address/address for correspondence	
Stock exchanges on which shares are held	
Company's vision and mission statement	
Statement of corporate strategy and objectives	
<b>Corporate governance</b>	
List of board members	Ammann et al. (2011), Javaid & Saboor (2015)
Disclosure of information on board members' qualification and experience	
List of senior manager (Not on the board)	
Pictures of all board members	
Numbers of board meetings and attendance list	
List of the audit committee	
<b>Social Responsibility Information</b>	
Sponsoring public health and sports	
Information on donation and charitable activities	
Involvement in environmental protection programs	
<b>Financial Reporting</b>	
Brief discussions of the company's operating results	Bailey et al. (2006), Ammann et al. (2011), and Suharsono et al. (2020)
Five years of performance at a glance	
Graphical information of information	
Return on assets	
Return on equity	
Liquidity ratio	

**Table 2:** (Continued)

<b>Background of the Company</b>	<b>Literature Reference</b>
Earnings per share	
Capital adequacy ratio	
Loan to deposit ratio	
Total dividend	
Dividend per share for the period	
Comparative income statements for two years	
Comparative balance sheet for two years	
Comparative cash flow statements for two years	
<b>Accounting Policies</b>	
Disclosure of accounting standards and their uses	
Accounting valuation of fixed assets(Fair value or historical cost)	
Foreign currency information	
Events after the balance sheet date	
Related party disclosure	
Disclosure of interest rate risk	
<b>Firm Value</b>	
q value	Hamrouni et al. (2015), Holderness et al. (1999), Rolle et al. (2020), Mohammed and Al Ani (2020), and Bayer et al. (2020)
Earnings per share (EPS)	Mohammed et al. (2016)
Assets Market Value (MVA)	ECE and SARI (2020)

which may be correlated with other explanatory variables. Furthermore, this approach was used because it simplified multicollinearity by generating more complex parameters and increasing freedom. We were also able to monitor the excluded variable (endogeneity). Panel data may monitor the impact of unobserved factors and incomplete details by incorporating intertemporal complexities and individuals' individuality (Hsiao, 2007). Furthermore, by combining time and country in the panel data, many conclusions may be presented (Baltagi, 2008).

Ordinary least squares (OLS) is a type of linear least-squares method for estimating the unknown parameters in a linear regression model. OLS chooses the parameters of a linear function of a set of explanatory variables by the principle of least squares: minimizing the sum of the squares of the differences between the observed dependent variable (values of the variable being observed) in the given dataset and those predicted by the linear function of the independent variable. The OLS estimator is biased and unreliable when

the omitted variables are violated. This bias depends on the covariance of the path between the regressors and the omitted variables. Owing to the omission of important variables and unrelated variables, the OLS estimator poses errors. The study intends to apply Generalized Least Square (GLS, hereafter) (Baltagi, 2008). GLS estimator of the coefficients of linear regression is a generalization of the ordinary least squares (OLS) estimator. GLS rather than OLS is considered an unbiased model of  $\beta$  with less variance in sampling among the class of linear unbiased estimators (Greene, 2008). The Pesaran cross-sectional dependency (CD) test was used to explain the data's cross-sectional dependence. We used a cross-sectional time-series feasible generalized least squares (FGLS) regression estimator to eliminate the heteroskedasticity and autocorrelation issues in the research due to several issues with the CD test models.

Furthermore, the study applied the Generalized Method Of Moments (GMM) estimator (Arellano & Bover, 1995; Blundell & Bond, 1998). GMM uses assumptions about

specific moments of the random variables instead of assumptions about the entire distribution, which makes GMM more robust. This method creates instrument proliferation using internal instruments and lags the endogenous variables. Later, an extension for GMM is used to mitigate the presence of too many instruments and account for cross-sectional dependence (Love & Zicchino, 2006). The difference GMM estimator, according to Arellano and Bover (1995), is dependent on difference regressions to control for unobservable results. Consequently, the estimator employs the latency of the dependent variables as instruments under the explanatory variables' measurements.

As Blundell and Bond (1998) discussed, there are drawbacks of utilizing different GMM estimators; precisely, the instruments are weak depending on the variables' lagged values since the explanatory variables are constant across time. Furthermore, if the lagged variable is almost persistent, this means that the parameters are skewed. We used the GMM scheme to address this problem, which displays the new moments of the relationship between the lagged variable and the error term by working with zero of the degree of error when lagged dependent variables are used. The framework GMM estimation focuses on instrumenting lags of difference equations by working with adequate orthogonality, which contributes to consistent parameter estimates even though endogeneity and unobserved individual country effects are present. Furthermore, all one-step and two-step method GMM are asymptotically standard, but the two-step system GMM is more efficient and has less asymptotic variation. The advantage of the two-step GMM is that the numbers of equations and parameters are nonlinear. GMM steps do not grow with the number of perfectly measured regressors, conferring a computational simplicity not shared by the asymptotically more efficient one-step GMM estimators that we described. The two-step GMM estimator has benefits over all other estimators. It does not offer biased parameter estimators in limited samples or the presence of endogeneity, regulating unobserved heterogeneity, or autocorrelation, and it does not present biased parameter estimators in the presence of endogeneity.

The generalized empirical equation for the study as follows:

$$Q_{it} = \alpha_0 + \beta_1 Ap_{it} + \beta_2 CG_{it} + \beta_3 CI_{it} + \beta_4 FR_{it} + \beta_5 SRI_{it} + \varepsilon \quad (1)$$

$$EPS_{it} = \alpha_0 + \gamma_1 Ap_{it} + \gamma_2 CG_{it} + \gamma_3 CI_{it} + \gamma_4 FR_{it} + \gamma_5 SRI_{it} + \varepsilon \quad (2)$$

$$MVA_{it} = \alpha_0 + \mu_1 Ap_{it} + \mu_2 CG_{it} + \mu_3 CI_{it} + \mu_4 FR_{it} + \mu_5 SRI_{it} + \varepsilon \quad (3)$$

Where the coefficient of  $\alpha_0$  explain the constant terms;  $Q$  denotes Tobin's Q Ratio EPS specific earning per share.

## 4. Empirical Results

### 4.1. Descriptive Statistics

Based on sample data, this section deals with the preliminary assessment through descriptive statistics (see panel-A) and pairwise correlation (see panel-B), and results are displayed in Table 3. It is apparent that the mean value of EPS is 12.85, range from -52.075 to 131.06; MVA is 22.243, range from 19.354 to 26.857; Tobin's Q is 0.381; range from -0.28 to 0.890. AP ranges from 0 to 1, with a mean of 0.920, CG with a mean of 0.895, CI with a mean of 0.813, ER with a mean of 0.722, and SRI with a mean of 0.299, respectively.

Results of pair-wise correlation that estimate bivariate outcome before multivariate estimation assist in understanding the possible association between explanatory and independent variables is shown in Table 3. Study findings reveal, (see panel-B in Table 3), the proxy measures of voluntary disclosure play a diverse role in enhancing the firm's value. It is noteworthy to mention that the impact of voluntary disclosure varies with selecting an indicator for measuring the firm's value. Thus, applying multivariate evaluation is the appropriate way of underpinning the impact of voluntary discourse on firm value.

Next, the study moves to gauge the impact of voluntary disclosure on the firm's value by performing OLS. Results are displayed in Table 4. Results are shown in column [1] with the measure of Tobin's Q as a proxy for measuring the firms' value. Study findings reveal that information disclosure relating to accounting practices (a coefficient of -0.035), corporate governance (a coefficient of -0.141), and social responsibility information (a coefficient of -0.259) have a negative relation with the firm value. Information disclosure focusing on company information (a coefficient of 0.124) and financial reporting (a coefficient of 0.714) have a positive association with the firm's value. These findings suggest that fair disclosure of key financial information plays a deterministic role in augmenting the firm's value.

Column [2] shows empirical model estimation results with EPS as a proxy for measuring the firms' value. Study findings established a positive relationship between publically available information, accounting policies (a coefficient of 3.385), corporate governance (a coefficient of 1.019), company information (a coefficient of 1.674), and social responsibility information (a coefficient of 1.975), and value of the firm. However, there is a negative relationship between financial reporting (a coefficient of -2.594) and the firm's value.

**Table 3:** Descriptive Statistics and Pairwise Correlation

	EPS	MAV	Q	AP	CG	CI	FR	SRI
<b>Panel-A: Descriptive Statistics</b>								
Mean	12.85	22.243	0.381	0.920	0.895	0.813	0.722	0.299
Median	4.810	21.969	0.420	1.00	1.000	0.857	0.785	0.166
Maximum	131.060	26.857	0.890	1.00	1.000	1.000	0.857	1.000
Minimum	-52.750	19.354	-0.280	0.667	0.500	0.571	0.571	0.000
Std. Dev.	24.505	1.5136	0.279	0.125	0.126	0.138	0.090	0.370
Skewness	2.235	1.045	-0.512	-1.197	-0.910	-0.723	-0.486	0.945
Kurtosis	10.399	4.092	2.586	2.838	2.949	2.479	1.919	2.468
Jarque-Bera	18.091	242.898	3.967	18.738	10.796	7.685	6.876	12.528
Observations	78							
<b>Panel-B: Pair-Wise Correlation</b>								
Q	1.000							
LMV	-0.208	1.000						
EPS	-0.174	0.367**	1.000					
CG	-0.091***	0.277**	0.093***	1.000				
CI	0.093	0.314	0.126**	0.298	1.000			
SRI	-0.286	0.249**	0.106**	0.184	0.319**	1.000		
FR	0.109	0.125	0.261	0.278**	0.492**	0.247	1.000	
AP	-0.066	0.377	0.137**	0.359	0.267***	0.143***	0.221***	1.000

**Table 4:** Baseline Estimation of Voluntary Disclosure Impact on the Value of the Firm

Variables	Tobin's Q	EPS	MVA
	[1]	[2]	[3]
AP	-0.035* (-10.147)	3.385*** (12.886)	2.367* (8.695)
CG	-0.141* (-10.552)	1.019* (10.852)	0.467** (9.315)
CI	0.124* (10.475)	1.674** (51.428)	-0.044** (-12.032)
FR	0.714** (22.012)	-2.595* (-21.479)	1.202** (22.589)
SRI	-0.259*** (-43.023)	1.975*** (15.068)	1.163*** (52.575)
Adjusted R-squared	0.375	0.383	0.287
F-statistic	25.745	10.591	23.157
Prob. (F-statistic)	0.000	0.000	0.012

Finally, column [3] shows empirical model estimation results with the market value of assets as a proxy for measuring the firms' value. Study findings disclosed a positive relationship with accounting practices (a coefficient of 2.367), corporate social responsibility (a coefficient of 0.467), financial reporting (a coefficient of 1.202), and social responsibility information (a coefficient of 1.163), and the value of the firm. On the other hand, an adverse relationship

is shown between company information and the firm's value (a coefficient of -0.044).

In the following, the study proceeds to estimate the prior implemented empirical model with more advanced and efficient econometric tools, i.e., Generalized Least square (GLS, hereafter) and system-GMM, to expose the relationship between voluntary disclosure and value of the firm. The results of the empirical model estimation are shown in Table 5.

**Table 5:** Results of GLS and System - GMM

Variables	Tobin's Q	EPS	MVA	Tobin's Q	EPS	MVA
	[1]	[2]	[3]	[4]	[5]	[6]
X*(-1)				1.526*** (15.078)	0.874** (14.87)	0.853*** (13.347)
AP	-0.052*** (-5.065)	-0.117 (-3.332)	-0.519 *** (-11.287)	-0.419 (-1.412)	0.757*** (11.191)	0.264*** (10.413)
CG	0.101*** (11.768)	0.044*** (7.167)	-0.238 (-0.971)	0.179*** (7.896)	-0.037 (-0.065)	-0.226 (-0.387)
CI	0.092*** (9.517)	-0.004*** (-11.32)	-0.188*** (-4.251)	-1.003 (-1.585)	-0.460 (-0.723)	0.606** (10.923)
FR	-0.167** (-10.463)	1.599*** (2.862)	0.118*** (5.342)	0.311*** (10.209)	1.921*** (12.026)	-0.111 (-0.113)
SRI	0.033*** (1.89)	-0.097*** (-10.557)	0.182** (2.362)	-0.029 (-0.191)	0.076*** (10.325)	0.149** (10.574)
Constant	4.845*** (5.117)	1.257** (21.583)	22.948*** (27.283)	12.845** (15.241)	-0.031*** (-10.402)	2.723* (1.892)
Adjusted R-squared	0.972	0.986	0.992	0.894	0.844	0.867
F-statistic	91.213***	243.514***	321.512***	125.14***	250.75***	157.315***
AR (1)				0.001	0.003	0.000
AR (2)				0.475	0.774	0.485

Note: \*\*\*/\*\*/\* denotes the level of significance at a 1%, 5%, 10, respectively. Values with [ ] represents t-stat of each coefficient.

For GLS estimation, the results are displayed in column [1] with Tobin's Q as the measure of firm value. Study finding shows an adverse and statistically significant relationship between information disclosure relating to accounting practices (a coefficient of -0.0521) and financial reporting (a coefficient of -0.167), and the firms' value, while a positive and statistically significant relationship with information relating to corporate governance (a coefficient of 0.101), company key information (a coefficient of 0.092), and social responsibility information (a coefficient of 0.033), and the firms' value. Column [2] shows results with EPS as a proxy for measuring the firms' value. It is obvious from empirical findings that information disclosure related to corporate governance (a coefficient of 0.044) and financial information (a coefficient of 1.599) enhance the firm value; however, company information (a coefficient of -0.004) and social responsibility information (-0.097) have a negative impact on the firms' value. Column [3] shows results with the market value of the assets as a proxy for measuring the firms' value. Study findings show information disclosure relating to financial performance (a coefficient of 0.118) and social responsibility information (a coefficient of 0.182) play a

critical role in increasing the firms' value which in turn increases the assets' market value.

For system-GMM estimation, the results with Tobin's Q as the measure of firm value are shown in column [4]. There is a positive and statistically significant association with information disclosure related to corporate social responsibility (a coefficient of 0.179) and financial reporting (a coefficient of 0.311) with the firms' value, while other coefficients are statistically insignificant. The results of model estimation with EPS as a proxy for measuring the firms' value are shown in column [5]. The study divulges a positive and statistically significant association between the firms' value and information related to accounting practices (a coefficient of 0.757), financial information (a coefficient of 1.921), and social responsibility information (a coefficient of 0.076). The results of model estimation with the market value of assets as a proxy for measuring the firm's value are shown in column [6]. Study findings reveal that information disclosure concerning accounting practices (a coefficient of 0.264), company information (a coefficient of 0.606), and social responsibility information (a coefficient of 0.149) has a positive and statistically significant relationship with the firms' value.

**Table 6:** Summary Effects of VD Measures on the Value of the Firm with Sign

Variables	Tobin's Q	EPS	MVA	Tobin's Q	EPS	MVA
	Two-stage OLS			System-GMM		
	[1]	[2]	[3]	[4]	[5]	[6]
AP	–***		–***		+***	+***
CG	+***	+***		+***		
CI	+***	–***	+***			+**
FR	–**	+***	+***	+***	+***	
SRI	+***	–***	+**		+***	+**

## 5. Discussion

In literature, the firms' value is interchangeably considered a measure of the growth of the enterprise and/or firms' sustainability; furthermore, researchers have been exposed to several keys determining the firm's value with positive and negative attitudes. The impact of voluntary information disclosure on the firms' value has been extensively investigated and establishes multifold linkage (between voluntary information disclosure and firm value), i.e., positive, negative, and neutral effects. Precisely conclusive decisions are yet to establish in the literature. The summary findings with the nature of the association between voluntary information disclosure and the firms' value are represented in Table 6. Study findings reveal both positive and negative effects.

For voluntary information, disclosures relating to accounting policies have a negative and significant association with the firm value in the Two-stage OLS estimation, whereas a positive and significant association with the firm value in system-GMM estimation. So, it is not conclusive whether accounting policies are critical for enhancing the firms' value. Furthermore, companies that pursue income-increasing accounting techniques are characterized by lower financial leverage, lower level of ownership concentration, and higher investment opportunity sets (Iatridis, 2008).

Corporate governance information is positively and significantly linked with the firms' value, which is established in both Two-stage OLS estimation and system-GMM estimation. These findings suggest a conclusive relationship between voluntary disclosure of corporate governance and the firm's value. This result is in the line with Ntim et al. (2012) and Abdo and Fisher (2007). Khanifah et al. (2020) advocated that information disclosure focusing on corporate governance plays a unique role in enhancing the firms' value by boosting financial performance. Corporate governance's

role is critical for escalating financial performance, especially for financial institutions (Darmadi, 2013). Javaid and Saboor (2015) stated that information disclosure about corporate governance plays a deterministic role in receiving external funds with ease. Company information related to corporate governance has a positive and statistically significant association with the firm value, especially when assets' market value is considered a proxy measure. This result is in line with Green and Jame (2013). Amihud (2002) postulated that information disclosure has a positive image in potential investors' minds, resulting in a higher degree of ownership confidence, higher stock turnover, and lower liquidity concerns for the companies.

Voluntary information relating to financial information helps firms increase the value. This result is in line with Hail (2013) and Zimmerman (2013). Keliwon et al. (2018) stated that financial reporting reflects the firms' operational performance and establishes the prime source for information in making an investment decision. Financial information disclosure acts as a motivating factor in investors' minds about the organisation's ethical practices (Da Silva & De Lira Alves, 2004). The involvement of social activities by the firm can positively impact increasing the value in investors' minds and eventually accelerates overall performance.

## 6. Conclusion

The impact of voluntary disclosure on the firm's value has been extensively investigated in literature but no conclusive evidence has been found. The study's motivation is to evaluate the impact of voluntary disclosure on the firms' value for the period spanning 2017–2019 by applying generalized least square and two-step system GMM estimation. The study's findings are yet to produce a conclusive association between voluntary disclosure and firm value, implying that different voluntary disclosure and proxies for measuring firm value establish an inconsistent association in both estimations.

However, in most cases, voluntary disclosure relating to corporate governance, financial statistics, and social responsibility activities reveals a positive and statistically significant association with the firm's value. At the same time, company information and accounting policies disclose mixed effects between voluntary disclosure and measures of the firms' value. Voluntary disclosure measurements on a firm's value are inconsistently related; therefore, further investigation is necessary. Future investigation can be implemented by taking a larger period with many firms. Maybe different results might appear.

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