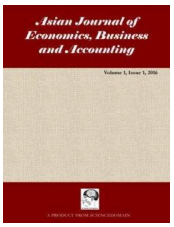

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Determinants of Triple Bottom Line Disclosure Practice of Listed Manufacturing Firms on the Nigerian Stock Exchange

Onyali, Chidiebele Innocent[1*], Okoye, Emmanuel Ikechukwu[1] and Okerekeoti, Chinedu Uchenna[1]

[1]Department of Accountancy, Faculty of Management Sciences, Nnamdi Azikiwe University, P.M.B. 5025, Awka, Nigeria.

Authors' contributions

This work was carried out in collaboration between all authors. Author OCI designed the study and wrote the first protocol. Author OEI performed the statistical analysis and wrote the first draft of the manuscript. Authors OEI and OCU managed the analyses of the study. Author OCI managed the literature searches and wrote the updated protocol. All authors read and approved the final manuscript.

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ABSTRACT

The study examines the determinants Of Triple Bottom Line Accounting Practice Of Listed Manufacturing Firms On The Nigerian Stock Exchange. The specific objectives of this study are to determine the relationship between Firm size, Firm liquidity, Firm leverage and triple bottom line disclosure practice of manufacturing firms listed on Nigerian Stock Exchange. Three research hypotheses were formulated for the study. This study adopted the ex-post facto research design. The sample of the study comprises of eighteen (18) manufacturing companies in Nigeria. The study relied on secondary data from annual financial statements of the companies. The formulated hypotheses were analyzed and tested using multiple regression analysis. The analysis was performed with the aid of E-view 8.0. The study revealed that Firms' size, liquidity and leverage have

**Corresponding author: E-mail: Akadike_two@yahoo.com;*

a significant positive relationship with the Triple bottom line Accounting practice of Manufacturing Firms listed on the Nigerian Stock Exchange. Consequent upon this study, it was recommended among others that triple bottom line disclosure orientation should be cultivated by all firms, irrespective of their size, liquidity and leverage status to make the practice part and parcel of their corporate strategy necessary for long-term business survival.

Keywords: Triple bottom line; triple bottom line disclosure and firms' triple bottom line disclosure practice.

1. INTRODUCTION

Accounting practices of firms have always gone hand in hand with the several developments in corporate reporting. Studies in the field of accounting information disclosure have been growing rapidly, with a shift from mandatory disclosure to voluntary ones. Triple bottom line (TBL) is a sustainability-related construct that was coined by Elkington [1]. The origin of sustainability may date back to over 130 years ago from an idea known as spaceship earth [2]. Evolving over the years, the construct gained significant popularity with the emergence of the term "sustainable development" from the Brundtland Report in 1987. The report defines the term as the "development that meets the needs of the present generations without compromising the ability of the future generations to meet their own needs" [3].

Driven by sustainability, TBL provides a framework for measuring the performance of a business and the success of the organization using three lines: economic, social, and environmental [4]. In essence, TBL expresses the expansion of the environmental agenda in a way that integrates the economic and social lines [1]. The triple bottom line is an integrated accounting framework emphasizing interactive evaluation of people, planet and profits as three critical dimensions for measuring and improving a firm's performance [5,6]. In the accomplishment of such evaluations, it edifies conceptualization and application of a combination of reactive and proactive measures that create a favorable work environment, improves employees' welfare and minimizes ecological damages.

The advent of TBL gave rise to transformation in corporate reporting. The traditional and obligatory financial statements were the first kind of reports to undergo a transformation, while the examination of non-financial reporting is somewhat recent and has its origins in the 1970s by the introduction of the TBL reporting practice. In the current economic climate, the traditional and fundamental accounting frameworks do not represent the holistic performance of a corporation. Non-financial accounting frameworks encapsulate better the holism and significance of corporate behaviours, actions and impacts. Corporations that are forward thinking have shifted their paradigm from having a compliance-based strategy towards corporate reporting to a more proactive approach by focusing more on financial and non-financial reporting [7]. Non-financial reporting is the system of measuring Organizational performance in the environment and social (non-financial) dimensions and disclosing this information to internal and external stakeholders.

Non-financial reporting drives corporations to be more transparent and accountable for their overall performance and its impact on the overarching pursuit towards the goal of sustainable development [8,7]. While a number of non-financial reporting frameworks have been developed over the years, the best-known framework that numerous corporations globally have embedded into their reporting systems and culture is the Triple Bottom Line (TBL) reporting framework. TBL is conceived as a popular reporting tool describing corporate social, environmental and economic performance.

Corporate performance usually delineated in financial reports is a legal requirement for organizations across the world [9]. Traditionally, annual reports have served as a medium to inform stakeholders about the accounting and economic performance of the corporation [10]. However, according to Gamerschlag, Moller & Verbeeten [11], TBL disclosure is regarded as a voluntary contribution of a company for the sustainable development that exceed legal requirements.

Combined with the resulting positive reputation of a firm's overall consistency for the protection of the ecological environment, it is quite certain that

as contrasted with non-triple bottom line abreast enterprises, effective embracement of the triple bottom line framework leverages a firm's overall competitiveness on the basis of cost and differentiation [11]. TBL certainly got corporations started on the journey of non-financial reporting. With its advent, corporations found a reporting mechanism to disclose their environmental, social and economic data and use this tool to find ways to minimize their social and environmental impacts as well as look for new business opportunities through best practices in business management.

1.1 Statement of Problem

With the shift in economic focus toward social/environmental longevity, firms are encouraged to look at the big picture and see their impact on the world around them. A fundamental philosophy propagated today is how imperative it is that firms address all values in reporting in order to lessen the chance that their activities will cause harm to global resources, not only for today's population but for future generations. The idea behind the triple bottom line disclosure paradigm is that a corporation's ultimate success or health can and should be measured not just by the traditional financial bottom line, but also by its social/ethical and environmental performance [1].

Requiring companies to report on a regular basis regarding the impact of their activities have had on the business environment will allow:

(a) Stakeholders to be informed of the nature of activities companies are engaged in; (b) Stakeholders to monitor the effect such activities are having on their environment; and (c) Companies in consultation with the relevant stakeholders will be able to implement strategies to minimize the effect of such activities.

Although it is evidently apparent that the business values of triple bottom line disclosure are abhorrently enormous, conventional tendencies in which profitability and increment of shareholders' value are prioritized above all business values seem yet a largely practiced business phenomenon [12,13,14,15]. Costs and business pressure linked to the essence of meeting daily operational overheads cause skewed approaches in which most firms get strongly preoccupied with profitability to enrich shareholders' value at the expense of the planet and people dimensions of the triple bottom line business framework.

The attention that has been paid to the topic of TBL is mainly focused on the consequences that are associated with TBL activities. Especially the consequence of financial performance has gained much attention the last couple of years. However, despite the extensive amount of research done to this consequence, results of this work are still contradictory and ambiguous. And so the question is, if engaging in TBL activities does not lead to improved financial performances per se, what are the antecedents of TBL that drive corporations to engage in TBL activities? Finding the determinants of engaging in TBL activities will contribute towards the understanding of why firms have different attitudes towards engaging in it.

Several potential determinants of corporate TBL disclosure have been identified in the literature. Cowen, Ferrari & Parker [16], suggest that larger companies tend to receive more attention from the public and, therefore, they are under greater public pressure to exhibit social responsibility. Also, Robert [17], disclosed that these empirical studies: Rahman, Zain & Al-Ha [18] and Reverte [19], found that TBL accounting is positively associated with firm age and firm size and added that when a corporation matures, its reputation and history of involvement in social responsibility become entrenched.

Furthermore, Robert [17], finds that corporate economic performance directly affects the financial capability of firms to undertake TBL programmes. The better the economic performance of a company, the more significant its social and environmental responsibility activity and disclosures. Profitable companies tend to be more interested in explaining TBL activities and manage the costs of disclosures [12]. However, Belkaoui & Karpik [20], find that if a company had a large amount of debt, this could limit TBL activities and their disclosure.

Since corporate TBL disclosure is a voluntary initiative, it is of interest to study why firms engage in it. A survey conducted by KPMG in 2011 shows that out of 100 top companies in Nigeria, 68% practice Sustainability Reporting. The study was therefore necessitated because not all firms engage in TBL disclosure practice in Nigeria and those that practiced it, operate at various degrees of commitment. Pioneering researchers have attempted to provide empirical shreds of evidence towards the determinants of corporate TBL accounting practice. However, these empirical pieces of evidence were conducted in developed countries. Since TBL

components in developing countries differ from those in developed countries [21], the existing empirical evidences may not be relevant in determining the accounting practice in developing countries. This has also necessitated the need for a study towards this direction in a developing country like Nigeria. Hence, this study fills these gaps in research.

1.2 Objective of the Study

The main objective of this study is to empirically ascertain the determinants of triple bottom line disclosure practice of manufacturing firms listed on Nigerian Stock Exchange. To achieve this, the study shall specifically verify the following:

1. The relationship between Firms' size and triple bottom line disclosure practice of manufacturing firms listed on Nigerian Stock Exchange.
2. The relationship between Firms' liquidity and triple bottom line disclosure practice of manufacturing firms listed on Nigerian Stock Exchange.
3. The relationship between Firms' leverage and triple bottom line disclosure practice of manufacturing firms listed on Nigerian Stock Exchange.

2. REVIEW OF RELATED LITERATURE

2.1 Conceptual Review

The 'triple bottom line' (TBL) catchphrase was coined by Elkington in 1994 to expand the environmentalist agenda of those working towards sustainability so that it more explicitly incorporates a social dimension [22]. He used the phrase as the basis for his book *Cannibals with Forks,* Elkington [23], where he explains that TBL refers to the three bottom lines of "economic prosperity, environmental quality and social justice". This could be attributed to growing demands from stakeholders for more extensive information on the operations and financial standing of businesses, thus necessitating that managers include information on sustainability-related issues [24].

In the words of Elkington himself: 'Triple bottom line focuses corporations not just on the economic value they add, but also on the environmental and social value they add – and destroy. At its narrowest, the term 'triple bottom line' is used as a framework for measuring and reporting corporate performance against economic, social and environmental parameters'. Thus, sustainability regarded as the integration of three performance areas: Economic, social and environmental; is viewed as a necessary practice for the survival of modern corporations.

According to Elkington, "the triple bottom line of fiscal, social and environmental success considerably alters how organizations (and stakeholders) measure sustainable success". Since TBL involves additional reporting, businesses will need to incorporate additional information in the reports provided to better communicate with stakeholders [24]. Thus, organizations have come to realize that meeting stakeholder expectation is as necessary a condition for sustainability as the need to achieve overall strategic business objectives [25]. While maximizing shareholder value continues to be an overriding concern, companies will not be able to do that over the long term if they don't meet other key stakeholder interests [25].

Triple-bottom-line reporting, also known as corporate sustainability reporting (CSR), involves reporting nonfinancial and financial information to a broader set of stakeholders than just shareholders [25]. The reports inform stakeholder groups of the reporting organization's ability to manage key risks [25]. Because these interests vary, the type of information varies; however, much of it has to do with the company's economic, operational, social, philanthropic and environmental objectives [25].

Triple Bottom Line (TBL) reporting is a method used in business accounting to further expansion of stakeholders' knowledge of a company. It goes beyond the traditional, financial aspects and reveals a company's impact on the world around it. There are three main focuses of TBL: "people, planet, and profit ["26]." It is a "concerted effort to incorporate economic, environmental and social considerations into a company‟s evaluation and decision making processes" [27]. This type of reporting establishes principles by which a company should operate to concentrate on the total effect of their actions (both positive and negative.) Sustainability has been a buzzword for well over a decade. In the late 1990‟s, John Elkington coined the phrase triple bottom line as a method for measuring sustainability. The most frequently seen factors used in performance measurement are: economic, environmental, and social [26,27].

TBL provides a framework for measuring the performance of the business and the success of

the organization using the economic, social, and environmental lines [4]. The term has also been referred to as the practical framework of sustainability [28]. The TBL agenda puts a consistent and balanced focus on the economic, social, and environmental value provided by the organizations as a target towards corporations.

2.1.1 Economic line

The economic line of TBL framework refers to the impact of the organization's business practices on the economic system [1]. It pertains to the capability of the economy as one of the subsystems of sustainability to survive and evolve into the future in order to support future generations [29]. The economic line ties the growth of the organization to the growth of the economy and how well it contributes to support it. In other words, it focuses on the economic value provided by the organization to the surrounding system in a way that prospers it and promotes its capability to support future generations.

2.1.2 Social line

The social line of TBL refers to conducting beneficial and fair business practices to the labor, human capital, and to the community [1]. The idea is that these practices provide value to the society and "give back" to the community. Examples of these practices may include fair wages and providing health care coverage. Aside from the moral aspect of being "good" to the society, disregarding social responsibility can affect the performance and sustainability of the business. The social performance focuses on the interaction between the community and the organization and addresses issues related to community involvement, employee relations, and fair wages [4].

2.1.3 Environmental line

The environmental line of TBL refers to engaging in practices that do not compromise the environmental resources for future generations. It pertains to the efficient use of energy recourses, reducing greenhouse gas emissions, and minimizing the ecological footprint, etc. [4]. Similar to the social aspect of TBL, environmental initiatives impact the business sustainability of the organizations.

In all instances, performance is being measured based on the impact of companies on society as a whole, both now and into the future. Since TBL involves additional reporting, businesses will need to incorporate additional information in the reports provided to better communicate with stakeholders. The particular information reported should be re-evaluated periodically to ensure the expectations outlined in the reports are being met. When a constraint is reported and is causing less than satisfactory results, it is important for the company to discover the processes or procedures that are giving unsustainable results and correct them. This way they continue to operate towards meeting their sustainable goals.

2.2 Empirical Studies on Determinants of Corporate Triple Bottom Line Disclosure

2.2.1 Firm size

Some studies found a significant positive association between firm size and sustainability reporting [30,31,19,32] as well as between firm size and assurance statements [33,34]. Moreover, Legendre and Coderre [35], argue that as the result of stakeholder pressure, larger corporations are expected to publish higher quality sustainability reports and adopt higher-level Global Reporting Index (GRI) application levels to legitimate their operations. Based on the same theoretical ground, we posit that larger firms are more likely to engage in TBL disclosure practices than smaller firms.

2.2.2 Liquidity

Jennifer Ho and Taylor [36], explain the sustainability reporting practices of corporations on the basis of signaling theory, such that liquid companies are more likely to include sustainability disclosures to meet short-term financial obligations. Moreover, the use of sustainability reports may be an expression of the confidence by management in a company's solvency and future prospects [37]. However, this hypothesis has not been supported by empirical findings [36,38] except [39]. Based on the theoretical approach, we argue that firms with a high liquidity ratio are more likely to engage in TBL disclosure practice.

2.2.3 Financial leverage

Debt holders are likely to see their investments in the firm materialize in forms of repayments and future interests [40]. Since the number of debt limits the amount of free cash flow available for managers to invest [40] and since there is no

undisputed evidence that investing in TBL will lead to more financial success [40], it is proposed that debt holders want the firm to invest their resources in activities other than TBL to ensure their repayments and interests. Based on the previous reasoning, one could say that leverage and TBL disclosure are negatively associated.

On the other hand, however, following agency theory, it is argued that more highly leveraged firms disclose more voluntary information in their annual reports in order to reduce agency costs and as a result, cost of capital [19]. Following this reasoning, one could say that leverage and TBL disclosure are positively associated.

2.3 THEORETICAL FRAMEWORK

The following theories (Stakeholder, Legitimacy, Agency and Signalling theory) were used for this study

2.3.1 Stakeholder theory

The traditional definition of a stakeholder is 'any group or individual who can affect or is affected by the achievement of the organization's objectives' [41]. The general idea of the stakeholder concept is a redefinition of the organization. In general, the concept is about what the organization should be and how it should be conceptualized. Fontaine, Harman & Schmid [42], states that the organization itself should be thought of as a grouping of stakeholders and the purpose of the organization should be to manage their interests, needs and viewpoints. This stakeholder management is thought to be fulfilled by the managers of a firm. The managers should, on the one hand, manage the corporation for the benefit of its stakeholders in order to ensure their rights and the participation in decision making and on the other hand the management must act as the stockholder's agent to ensure the survival of the firm to safeguard the long-term stakes of each group.

The definition of a stakeholder, the purpose and the character of the organization and the role of managers are very unclear and contested in literature and has changed over the years. Even the 'father of the stakeholder concept' changed his definition over the time. In one of his definitions, Freeman [43], defines stakeholders as 'those groups who are vital to the survival and success of the corporation'. Also, in one of his publications Freeman [43], adds a new principle, which reflects a new trend in stakeholder theory. In this principle, in his opinion, the consideration of the perspective of the stakeholders themselves and their activities is also very important to be taken into the management of companies. He states 'The principle of stakeholder recourse. Stakeholders may bring an action against the directors for failure to perform the required duty of care' [43]. All the mentioned thoughts and principles of the stakeholder concept are known as normative stakeholder theory in literature. Normative Stakeholder theory contains theories of how managers or stakeholders should act and should view the purpose of organization, based on some ethical principle [43].

Another approach to the stakeholder concept is the so-called descriptive stakeholder theory. This theory is concerned with how managers and stakeholders actually behave and how they view their actions and roles. The instrumental stakeholder theory deals with how managers should act if they want favor and work for their own interests. In some literature, the ownership interest is conceived as the interests of the organization, which is usually to maximize profit or to maximize shareholder value. This means if managers treat stakeholders in line with the stakeholder concept the organization will be more successful in the long run.

2.3.2 Legitimacy theory

In organization's perspective legitimacy can be defined by as a condition or status which exists when an entity's system is incongruent with the value system of the larger social system of which the entity is a part. When a disparity, actual or potential, exists between the two value systems, there is a threat to the entity's legitimacy. Legitimacy theory is derived from political economy theory [44] and relies on the idea that the legitimacy of a company to operate in society depends on an implicit social contract between the company and society. Legitimacy theory assumes that organization should strive to ensure its operations comply with the limits and norms of the society. Barkemeyer [45], stated that legitimacy theory has two strengths in explaining the context of social responsibility in developing countries. The first is the capability of the company to not only maximize profits, provide more insights of what the company motives to increase social responsibility; second, organizational legitimacy includes a cultural factor that is shaped pressure from different institutions in different contexts.

2.3.3 Agency theory

The agency theory tries to explain the conflict that can arise between the management on the one hand and the owners on the other hand. The agency problem leads to information asymmetry where the management has more information about the company than the owners. One way of dealing with the information asymmetry problem is good corporate governance practices. The other way is to disclose more information. The agency theory indicates that companies can use different sources of information related to results by decreasing asymmetries across the market [46]. Adequate TBL disclosure helps reduce differences between a company's performance and their stakeholders' expectations.

2.3.4 Signaling theory

Drawing upon the signaling theory, a firm chooses sustainability information in order to send messages as to how it is performing in terms of economic, social, and environmental performance [47,48].

3. METHODOLOGY

3.1 Research Design

The study adopted ex-post facto research design. Ex-post facto is a Latin word for "after the fact". The ex-post facto research design is a type of research design in which groups of participants are determined by pre-existing conditions and events from the past. The suitability of this choice of research design was based on the fact that the design allows researchers to establish the time sequence of the variables by logical considerations.

3.2 Population of the Study

The population of this study is made up of all seven six manufacturing companies listed on the Nigerian Stock Exchange as at 2016 which include consumer goods, agriculture, healthcare, industrial goods amongst others. (See appendix 1) The study covered thirteen years annual reports and accounts of these companies from 2004 to 2016.

3.3 Sampling and Sampling Technique

The researcher used purposive sampling techniques to select eighteen listed manufacturing companies on Nigerian stock exchange, with complete and detailed information during the period used for the study. However, it excluded firms with incomplete data during the period used for the study. (See Appendix 1)

3.4 Method of Data Collection

The data for this research were collected from secondary sources. Data on TBL disclosure, Firm size, corporate liquidity and corporate financial leverage were obtained from Fact-Book of the Nigerian Stock Exchange and the annual reports of the sampled manufacturing firms.

3.5 Method of Data Analysis

Multiple regression approach was used to analyze the data. Both the dependent and the independent variables were computed from the data extracted from publications of the Nigerian stock exchange and the annual report and accounts of the selected listed manufacturing firms. Multiple regressions were used to ascertain whether there is a significant relationship between the dependent and independent variables and to explain the pattern of the relationship the independent variables have on TBL disclosure practice of the respective firms.

3.6 Model Specification

We specify our non stochastic model as:

$$TBL = f(\beta_0 + \beta_1 DON_{t-1} + \beta_2 SWM_{t-1} + \beta_3 EDB)$$

Where:

β_o = Constant term (intercept)
β_1 = Coefficients to be estimated for firm i in period t, where i = 1.....5
e_{it} = Error term/unexplained variables for firm i in period t.
TBL = TBL disclosure
DON =Donations on Community development
SWM = Solid waste management
EDB = Employment distribution
FSIZE = Firm size
CLT = Corporate liquidity
CFL = Corporate financial leverage
BSIZE = Board Size as the control variable

Now stating the model in an explicit stochastic form gives:

$$TBL = B_0 + B_1 DON_{T-1} + B_2 SWM_{T-1} + B_3 EDB_{T-1} + B_4 FSIZE_{T-1} E_T \quad (1)$$

$$TBL = B_0 + B_1 DON_{T-1} + B_2 SWM_{T-1} + B_3 EDB_{T-1} + B_4 CLT_{T-1} E_T \quad (2)$$

$$TBL = B_0 + B_1 DON_{T-1} + B_2 SWM_{T-1} + B_3 EDB_{T-1} + B_4 CFL_{T-1} E_T \quad (3)$$

All variables are as previously defined.β_0 is the coefficient (constant), $\beta_1 - \beta_3$ are parameters of the independent variables to be estimated, e is standard error, t is current period while t-i (where i = 1) stands for one year lag period.

Decision Rule: Reject the null hypothesis for the alternative if the F-value is less than 5% otherwise accept it.

4. DATA PRESENTATION AND ANALYSIS

4.1 Data Presentation

Table 1 shows the measurement of variables of the study and Table 2 shows the merged data of the eighteen (18) sampled manufacturing firms. It represents the average data calculated annually for the period of thirteen (13) years for each and every variable of this study. It was based on these data that the hypotheses were tested.

4.2 Data Analysis

The data for the study were analyzed using descriptive statistics which comprises of mean, median, minimum and maximum values and standard deviation respectively. Mean is the tool for setting a benchmark. The median helps in re-ranking and taking the central tendency. Also, the minimum and maximum values help in detecting problem in a data. The standard deviation reveals the deviation from the mean. It measures risk; the higher the standard deviation the higher the risk. The descriptive statistics of the operational variables is presented in Table 3.

Table 1. Variables and measurement

S/N	Variables:	Code	Measurement
1	**Dependent variables**		
	TBL disclosure	(TBL)	✓ Environmental Measures/ disclosure ✓ Economic Measures/ disclosure ✓ Social Measures/ disclosure
2	**Independent variables**		
A	Firm size	(FSIZE)	Log of total assets
B	Corporate liquidity	(CLT)	Cash Conversion Cycle (CCC)= DIO+DSO+DPO
C	Corporate financial leverage	(CFL)	Ratio of debt to equity.
	Board Size	BSIZE	Total number of board

Source: Authors Conceptualization

*Where; DIO represents days inventory outstanding = (average inventory/COGS)*365*

*DSO represents days sales outstanding.= (average account receivable/ Sales)*365*

*DPO represents days payable outstanding. = average account payable/ (inventory increase +COGS)*365*

Table 2. Combined data

	DON	EDB	FSIZE	LIQ	LIV	RESID	SWM
2004	3.99	3.02	8.01	5.01	8.02		3.01
2005	4.09	2.99	8.01	5.37	9		3.1
2006	4.09	3.06	9.01	6	9.02		3.01
2007	4.05	3.11	9	5.05	7.99	-0.112	2.06
2008	3.99	3	8.1	5.88	8.43	-0.1213	3.01
2009	4.04	3.27	8.59	6.01	8.02	0.063	2.09
2010	3.99	3.55	9	5.55	9.03	-0.065	3.02
2011	4.03	3.21	8.99	5.91	7.69	-0.005	3.33
2012	3.99	3.65	8.76	5.85	8.82	-0.0585	3.04
2013	4	3.1	9.01	5.76	9.21	-0.038	3.09
2014	4.53	3.99	9.06	5.98	9.1	0.513	2.7
2015	4.67	3.59	9.02	6.05	9.06	-0.104	3.03
2016	5.01	4	9.972	6.11	11	-0.074	4.03

Source: Computed from the annual accounts of selected Firms and Nigerian Stock Exchange Factbook 2016

Table 3. Descriptive statistics of operational variables

	SWM	RESID	LIV	LIQ	FSIZE	EDB	DON
Mean	6.932000	0.000000	8.836000	5.815000	8.961000	3.447000	4.230000
Median	3.015000	-0.061973	8.930000	5.895000	9.000000	3.410000	4.035000
Maximum	4.030000	0.517113	11.00000	6.110000	9.970000	4.000000	5.010000
Minimum	2.070000	-0.121812	7.690000	5.050000	8.210000	3.000000	3.990000
Std. Dev.	0.568581	0.190153	0.933586	0.312774	0.444683	0.364266	0.369113
Skewness	0.089543	2.266152	1.080021	-1.587523	0.727144	0.371640	1.193362
Kurtosis	2.996337	6.809795	4.008602	4.648396	4.342134	1.782018	2.876070
Jarque-Bera	0.013369	14.60680	2.367942	5.332551	1.631782	0.848310	2.379921
Probability	0.002338	0.000673	0.001061	0.004511	0.000245	0.000322	0.001233
Sum	29.32000	0.000000	88.36000	58.15000	89.61000	34.47000	42.30000
Sum Sq. Dev.	2.909560	0.325424	7.844240	0.880450	1.779690	1.194210	1.226200
Observations	10	10	10	10	10	10	10

Source: Researcher's Computation Using E-View 8.0

The standard deviation of the operational data chosen are 6%, 0.5%, 2.2%, 10%, 4%, 2% and 19% for SWM, RESID, LIV, LIQ,EBD, AND DON respectively. These, therefore, show a less than one standard deviation away from the mean value.

The skewness and Kurtosis are contained in Jarque_Bera. Jarque_Bera is used to test for normality; to know whether data are normally distributed. Jarque_Bera theory posits that, if probability value is less than 10% we accept the alternative (H_I) meaning that the data are normally distributed if not accept the null, meaning that they are not normally distributed. In this case, the PV values are 0.002338, 0.000673, 0.001061, 0.004511, 0.000245, 0.000322 and 0.001233 for SWM, RESID, LIV, LIQ, EBD, AND DON respectively are normally distributed since the PV values are less than 10%.

4.3 Test of Hypotheses

4.3.1 Hypothesis one

H_o: There is no positive relationship between Firms' size and triple bottom line disclosure practice of manufacturing firms listed on Nigerian Stock Exchange.

Interpretation:

The Multiple regression on Table 4 depicts that there is a positive relationship between DON, EDB, SWM and FSIZE (β_1 = 0.186393). The slope coefficients show that the variables when taken individually are not statistically significant because their probability values are greater than 5%. This implies that variables have no positive significant relationship with FSIZE when taken individually.

The result in Table 4 indicates that the R-squared for the model is .067, meaning that the regression model used for this study is a good predictor. The independent variables explained 67% of the variation in DON, EDB, SWM and FSIZE. Only 31% of variation in DON, EDB, SWM and FSIZE is not explained by the regression model.

The Durbin-Watson value of 0.891035 indicates the absence of serial correlation in the model.

From the test of coefficients result in Table 4, the probability value of F-statistics = 0.001413 implies that the regression model is significant in predicting the relationship between the independent variable and the dependent variables. The significance of the variables is less than α=0.05. This result indicates that the overall regression model is statistically significant and is useful for prediction purposes at 5% significance level.

Conclusively, since the P-value of the test is less than α=0.05, going by the rule of thumb, H_1 is accepted and Ho rejected. Thus, there is a significant positive relationship between Firms' size and triple bottom line accounting practice of manufacturing firms listed on Nigerian Stock Exchange.

4.3.2 Hypothesis two

H_o:There is no positive relationship between firm's liquidity and triple bottom line disclosure practice of manufacturing firms listed on Nigerian Stock Exchange.

Interpretation:

The Multiple regression in Table 5 depicts that there is a positive relationship between DON,

EDB, SWM and LIQ (β_1 = 0.079324). The slope coefficients show that the probability value: P = (0.7155) is greater than the critical P-value when taken individually. This implies that DON, EDB, SWM has no positive significant relationship with LIQ when taken individually.

The result in Table 5 indicates that the R-squared for the model is .064, meaning that the regression model used for this study is a good predictor. The independent variables explained 63% of the variation in DON, EDB, SWM. Only 37% of variation in DON, EDB, SWM is not explained by the regression model.

The Durbin-Watson value of 0.998953 indicates the absence of serial correlation in the model.

From the test of coefficients result in Table 5, the probability value of F-statistics = 0.002074 implies that the regression model is significant in predicting the relationship between the independent variable and the dependent variables. The significance of the variables is less than α=0.05.

This result indicates that the overall regression model is statistically significant and is useful for prediction purposes at 5% significance level.

Conclusively, since the P-value of the test is less than α=0.05, going by the rule of thumb, H_1 is accepted and Ho rejected. Thus, there is a significant positive relationship between liquidity and triple bottom line accounting practice of manufacturing firms listed on Nigerian Stock Exchange.

4.3.3 Hypothesis three

H_o: There is no positive relationship between firms' leverage and triple bottom line disclosure practice of manufacturing firms listed on Nigerian Stock Exchange.

Interpretation:

Table 6 depicts that there is a positive relationship between DON, EDB, SWM and LIV (β_1=0.155418). The slope coefficients show that the variables when taken individually are not statistically significant because their probability values are greater than 5%. This implies that DON, EDB, SWM has no positive significant relationship with LIV at 5% significant level.

Results in Table 6 indicate that the R-squared for the model is 0.70, meaning that the regression model used for this study is a good predictor. The independent variables explained 70% of the variation in DON, EDB, SWM. Only 31% of variation in DON, EDB, SWM is not explained by the regression model.

The Durbin-Watson value of 1.715157 indicates the absence of serial correlation in the model.

From the test of coefficients result in Table 6, the probability value of the F-statistics = 0.001690 implies that the regression model is significant in predicting the relationship between the independent variable and the dependent variable. The significance of the variables is less than α=0.05. This result indicates that the overall

Table 4. Multiple regression showing the effect of DON, EDB, SWM on FSIZE

Dependent Variable: DON
Method: Least Squares
Date: 10/12/17 Time: 11:49
Sample: 2004 2016
Included observations: 13

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EDB	0.450625	0.237904	1.894147	0.0907
SWM	0.133574	0.140867	0.948232	0.3678
C	0.634857	1.140335	0.556728	0.5913
FSIZE	0.186393	0.178247	1.045701	0.3230
R-squared	0.673284	Mean dependent var		4.184615
Adjusted R-squared	0.564379	S.D. dependent var		0.331753
S.E. of regression	0.218962	Akaike info criterion		0.047827
Sum squared resid	0.431501	Schwarz criterion		0.221657
Log likelihood	3.689128	Hannan-Quinn criter.		0.012097
F-statistic	6.182298	Durbin-Watson stat		0.891035
Prob(F-statistic)	0.001413			

Source: Researcher's Computation Using E-View 8.0

Table 5. Multiple regression showing the effect of DON, EDB, SWM on LIQ

Dependent Variable: DON
Method: Least Squares
Date: 10/12/17 Time: 12:08
Sample: 2004 2016
Included observations: 13

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EDB	0.573530	0.214566	2.672973	0.0255
SWM	0.159188	0.146546	1.086262	0.3056
C	1.339483	1.027629	1.303469	0.2248
LIQ	0.079324	0.210838	0.376230	0.7155
R-squared	0.639262	Mean dependent var		4.184615
Adjusted R-squared	0.519016	S.D. dependent var		0.331753
S.E. of regression	0.230081	Akaike info criterion		0.146887
Sum squared resid	0.476435	Schwarz criterion		0.320718
Log likelihood	3.045231	Hannan-Quinn criter.		0.111157
F-statistic	5.316292	Durbin-Watson stat		0.998953
Prob(F-statistic)	0.002074			

Source: Researcher's Computation Using E-View 8.0

Table 6. Multiple regression showing the effect of DON, EDB, SWM on LIV

Dependent Variable: DON
Method: Least Squares
Date: 10/12/17 Time: 12:09
Sample: 2004 2016
Included observations: 13

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EDB	0.448503	0.213558	2.100149	0.0651
SWM	0.037308	0.164808	0.226375	0.8260
C	1.204766	0.674017	1.787442	0.1075
LIV	0.155418	0.115339	1.347488	0.2108
R-squared	0.695101	Mean dependent var		4.184615
Adjusted R-squared	0.593468	S.D. dependent var		0.331753
S.E. of regression	0.211525	Akaike info criterion		-0.021284
Sum squared resid	0.402687	Schwarz criterion		0.152547
Log likelihood	4.138344	Hannan-Quinn criter.		-0.057014
F-statistic	6.839331	Durbin-Watson stat		1.715157
Prob(F-statistic)	0.001690			

Source: Researcher's Computation Using E-View 8.0

regression model is statistically significant and is useful for prediction purposes at 5% significance level.

Conclusively, since the p-value of the test is less than α=0.05, going by the rule of thumb, H_1 is accepted and Ho rejected. Thus, there exists a significant positive relationship between firms' leverage and triple bottom line accounting practice of manufacturing firms listed on Nigerian Stock Exchange at 5% level of significance.

5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The following findings emanated from the study:

1. There is a significant positive relationship between Firms' size and Triple bottom line accounting practice of manufacturing firms listed on Nigerian Stock Exchange.

2. There is a significant positive relationship between Firms' liquidity and Triple bottom line accounting practice of manufacturing firms listed on Nigerian Stock Exchange.
3. There is a significant positive relationship between Firms' leverage and Triple bottom line accounting practice of manufacturing firms listed on Nigerian Stock Exchange.

5.2 Conclusion

The study investigated the determinants of TBL disclosure practice of listed Manufacturing Firms in Nigeria, with the aim of identifying the factors that influence firms' engagement in practice. The study was necessitated because not all firms engage in TBL accounting and those that practice it, operate at various degrees of commitment. Explanatory variables such as firm size, firm liquidity and leverage were employed against TBL accounting practice (the explained variable). The importance of the study cannot be overemphasized. Its findings would be useful in decision making by Management of Organizations, Shareholders, Regulators, Policymakers among others.

5.3 Recommendations

Based on the findings and conclusion above, the following recommendations were made:

1. TBL disclosure orientation should be cultivated by all firms, irrespective of their size, liquidity and leverage status so as to make the practice part and parcel of their corporate strategy necessary for long-term business survival.
2. The fact that effective embracement of the triple bottom line disclosure practice is a driver of sustainability, Firms should endeavor to integrate into the practice, not minding their size, liquidity and leverage position, in order to enable them reduce the adverse effects and costs of non-compliance which often arise from fines, litigation, compensation and riots by various pressure groups
3. Corporate Firms are advised to engage more effectively in TBL disclosures, irrespective of their size, liquidity and leverage standing, as this can prompt them to focus on problems related to certain sustainable development actions, add value, and eventually achieve more sustainable development.
4. A firm's adoption of a sustainable development strategy is an indication of managerial attention to the perceptions of the stakeholders, who play a major role in determining the success and survival of any business enterprise. Therefore, the earlier firms effectively embrace the TBL disclosure practice, irrespective of their size, liquidity or leverage status, the earlier they gain the confidence and trust of their stakeholders, which is necessary for long-term business survival and growth.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX 1

Manufacturing Companies Quoted on the Nigeria Stock Exchange

Agriculture

1. Livestock Feeds Plc.
2. Okomu Oil Palm Plc.
3. Presco plc ,
4. Ellah Lakes Plc.

Automobile & Tyre

5. R. T. Briscoe Plc.
6. Bewac Nigeria Plc.
7. Dunlop Nigeria Plc.
8. Incar Nigeria Plc.

Breweries

9. Champion Breweries Plc.
10. Guinness Nigeria Plc.
11. International Breweries Plc.
12. Nigerian Breweries Plc.

Building Materials

13. Ashaka Cement Plc.
14. Cement Co. of Northern Nig. Plc.
15. Lafarge WAPCO Plc.
16. Nigerian Ropes Plc.
17. Dangote cement plc

Chemical & Paints

18. Berger Paints Plc.
19. CAP Plc.
20. DN Meyer Plc
21. PCMN plc,
22. Premier Paints Plc.
23. Portland paints & products Nigeria

Conglomerates

24. A. C. Leventis Nigeria Plc
25. Chellarams Plc.
26. John Holt Plc.
27. P. Z. Industries Plc
28. SCOA Nig. Plc
29. Transnational Corporation of Nig. Plc.
30. U A CN Plc.
31. Unilever Nigeria Plc.
32. UTC Nigeria Plc.

Engineering Technology

33. Cutix Plc.
34. Interlinked Technologies Plc.
35. Nigerian Wire and Cable Plc.
36. Onwuka Hi-Tek Industries Plc

Food, Beverages and Tobacco

37. Flour mill of Nig plc
38. Honeywell flour mill plc ,
39. 7-Up Bottling Company Plc.
40. Cadbury Nigeria Plc.
41. Dangote Flour Mills Plc.
42. Dangote Sugar Refinery Plc.
43. National Salt Co. Nigeria Plc.
44. Nestle Foods Nigeria Plc.
45. Northern Nigeria Flour Mills Plc.
46. P S Mandrides & Co. Plc.
47. Union Dicon Salt Plc.
48. UTC Nigeria Plc.
49. National Salt Co. Nigeria Plc.
50. MC Nichols Plc,

Healthcare

51. Evans Medical Plc.
52. Glaxo Smithkline Consumer.
53. May & Baker Nigeria Plc.
54. Morison Industries Plc.
55. Neimeth International Pharm. Plc.
56. Pharma - Deko Plc.
57. Fidson Healthcare

Industrial & Domestic Products

58. Aluminium Man. of Nig. Plc
59. Aluminium Extrusion Ind. Plc.
60. First Aluminium Nigeria Plc. .
61. Multiverse mining & exploration
62. Vitafoam Nigeria Plc.
63. Vonofoam Products Plc.

Packaging

64. Beta Glass Co. Plc.
65. GREIF Nigeria Plc.

Oil and Gas

66. Conoil Plc
67. Eternal oil & gas plc
68. Mobil oil Nig.
69. Oando plc
70. Total Nig. Plc
71. MRS oil Nig. Plc
72. Forte oil plc

Textiles

73. Aba Textiles Mills Plc.
74. Afriprint Nigeria Plc.
75. Nigeria Textile Mills Plc.
76. United Nigeria Textiles Plc

Source: Nigeria Stock Exchange Fact book, 2016.

List of sample size of the study

1. Nigeria Breweries Plc
2. Cadbury Plc
3. Presco Plc
4. Nestle Nigeria Plc
5. Unilever Nigeria Plc
6. Dangote Cement Plc
7. Guinness Nigeria Plc
8. 7-Up Bottling Company Plc
9. Honeywell Flour Mill Plc
10. M&B Nig
11. Cement Co. of Northern Nig. Plc
12. Vita Foam Nig Plc
13. Pharma Deko
14. Premier Paints Plc
15. Alumninum Ext
16. Nigerian Ropes Plc
17. Beta Glass
18. Lafarge Africa

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