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ENVIRONMENTAL DISCLOSURES AND PROFITABILITY OF NON-FINANCIAL SERVICES FIRMS IN NIGERIA: MODERATING ROLE OF FEMALE BOARD MEMBERSHIP.

***EHADA, Samson[1]; OKPANACHI, Joshua[2]; AGBI, Eniola Samuel[2]; JOSHUA, S. G[2]**

[1]Department of Accountancy, College of Business and Management Studies, Kaduna polytechnic, Kaduna, Kaduna State.

[2]Department of Accounting, Faculty of Management Sciences, Nigerian Defence Academy, Kaduna, Kaduna State.

Corresponding Address: ehadason@gmail.com

Abstract

With female board membership serving as the moderator, this study investigated the moderating role of female board membership on the nexus between environmental disclosures and profitability of non-financial services firms in Nigeria using a panel dataset from 2011 to 2021. The population and sample size of the study comprises of 74 and 41 listed non-financial services firms respectively using the judgmental sampling technique. By applying a panel regression techniques, the study revealed that the employee relations disclosure positively and insignificantly affects return on assets, quality assurance disclosure positively and significantly affect return on assets, while local community disclosure have insignificant negative effect on return on assets. From the perspective of moderation effect, this study also found out that only female board membership-quality assurance disclosures negatively and significantly moderated the relationship between environmental disclosure and return on assets of the sampled firms. This study concluded that there is no moderating effect of female board membership on the relationship between female board membership-employee relations, female board membership-local community disclosure and return on assets of non-financial services firms in Nigeria. Therefore, it was recommended that the management of non-financial services firms in Nigeria should exercise care over the expenditure to be incurred on quality of products. In the same vein, Female Board Membership could be considered for other purposes and not as moderator so, as to prevent further adverse effect on profitability of sampled firms. It underscores the urgent need for employing competent female members into board based on their technical and professional expertise instead of political affiliations.

Keywords: *Environmental Disclosures, Quality Assurance, Profitability, Female Membership.*

INTRODUCTION

Firms' profitability is a good signal to every investor and other stakeholders. This is so because profitability plays an important role in the structure and development of every business organization. Profitability is the measure of financial growth; success and it enhances the reputation of a firm. Profitability of corporate entities is a subject that has attracted lots of

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attention, comments and interest from financial experts, researchers and the general public (Ali & Stanley, 2016). According to Worimegbe (2021), environmental costs (EC) are expenditures incurred by corporate organizations to eradicate, minimize, or recuperate negative consequences of the entity's activities on the environment.

Environmental management (EM) is when businesses accepted responsibility for their business decisions and operations in a way that does not negatively affect society or the environment (Kruders, 2018). Fuller (2013) viewed environmental disclosure (ED) to be a disclosure of fee charged on the returns derived from the wrongs committed by a firm to pay for some of the rights, such as revenues and the environmental development. Non-financial services firms in this study referred to all firms operating in Nigeria, excluding banks and insurance companies.

According to Onuoha (2019), researchers have raised concern about the poor investment performance and productivity of Nigerian non-financial services firms. Corporate entities were expected to generate profit, and enhance good living conditions of stakeholders were reporting losses. Firms dwindle in profit generation which makes them unable to meet up their responsibilities is a challenge to corporate managers all over the world. For instance, non-financial services firms experienced losses arising from increased operational costs (NGX, 2020; The Guardian, 2021). When companies render services to communities to compensation them for environmental hazards resulted from their operational activities such as oil spill, degradation, pollution among others, are taken care of by companies, there would be resolve between community members and firms which will eventually lead to peace, tranquility, and invariably enable organizations operate maximally, therefore, leading to profitability.

The variation of results and divergent opinion on previous studies on the effects of ED on corporate profitability in Nigeria; necessitate the use of moderating variable. Furthermore, few studies on moderating role have been conducted in developing countries and Nigeria in particular. No study has yet examined the moderating roles of board membership measure by female board membership (FBM) on the profitability on the entire manufacturing firms listed in the Nigeria exchange. This suggests that there are other factors that affect the relationship between the independent variables and the dependent variable, which have not been accounted for in the previous studies. One of such factors is board diversity which is proxied by FBM. Female board member is generally noted to have the potential of being objective and unbiased in the business decision making. The justification for the use of FBM as moderating variable between ED and profitability is that, FBM represent number of women in the board of a company: According to Companies Act 2013, Section 149 (1), every listed company should have at least one female as a director on its board. Chen (2021) observed that it is common for the board of directors to convene at regular intervals to develop corporate management strategies and oversight procedures, there must be female director(s) for any public and private firm, regardless of whether it is for-profit or not-for-profit.

Onwuamaeze (2021) revealed that 56 seats (23.4%) out of 239 board seats available in the top 20 companies were held by women, while 183 seats (76.6%) were held by men during the

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period under review. This study therefore fills these pertinent gaps in literature by studying the moderating effect of FBM on the relationship between ED and profitability of listed non-financial services companies in Nigeria. It is against this backdrop that this study seeks to know the effect of ED on profitability, and the moderating role of FBM on the relationship between ED and profitability of listed non-financial services companies in Nigeria.

International Standard Organization (ISO 14031) is a document that gives guidelines for the design and use of environmental performance evaluation within an organization. It is applicable to all organizations, regardless of type, size, location and complexity. ISO 14031 consists of five items such as environmental information (EI), employees' relations (ER), community development (CD), energy, and product quality (PQ), and 60 checklists. Based on ISO 14031 as adapted by (Uwigbe, 2011; Lanis & Richardson, 2011; Deegan & Gordon, 1996), where the variables of this study: quality assurance disclosure (QAD), local community disclosure (LCD) and employee relation disclosure (ERD) are drawn.

Therefore, based on the aforementioned discussion, this study is expected to answer the research questions in terms of What is the moderating effect of female board membership on the relationship between environmental disclosures and profitability of non-financial services firms in Nigeria? The main objective of this study is to examine the moderating effect of female board membership on ED and profitability of listed non-financial services firms in Nigeria. This research will be of immense importance to the management of non-financial services firms in Nigeria with a view to establishing the important role that ED plays in the success of listed non-financial services firms' business in Nigeria, as well as to benefit stakeholders and shareholders as adequate policy are formulated to safeguard their funds.

LITERATURE REVIEW

This study examines the effect of ED on the profitability, using FBM to moderate the relationship between ED and profitability; the study looked at three aspects of ED (quality assurance disclosure, local community disclosure, and employee relations disclosure). Conceptual framework in Figure 1 clarified the concepts and the relationship.

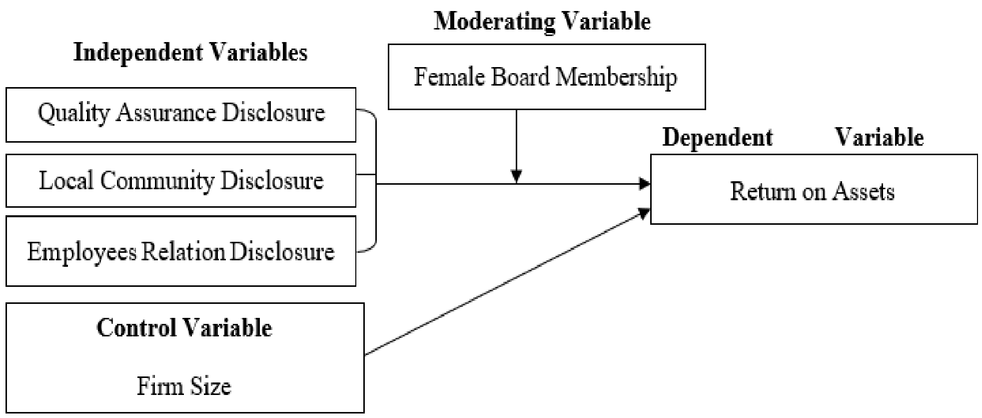

Figure 1: Conceptualization of Variables
Source: Adapted from Muhammad et al. (2017).

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From Figure 1, independent variables comprise of quality assurance disclosure, local community disclosure and employee relations disclosure. Firm size is a control variable while female board membership and return on assets are moderating and dependent variables respectively. Under the principles of sustainability reporting, an organization's economic responsibility includes the quality of its products and the pleasure of its customer’s measures management effectiveness in generating products and services that bring value while maintaining the safety of customers (Stewart, 2021). To keep its license, a firm must be able to provide high-quality goods and services, integrate the needs of its consumers, and protect its integrity through correct product labeling (Stewart, 2021).

Local community Disclosure (LCD) is a practice where community members come together to take collective action and generate solution to common challenges. It is also understood to be a professional discipline, which is viewed by international association of community development (IACD) as a practice-based profession and an academic discipline that promotes participative democracy and sustainable development (Ritter, 2003). LCD seeks to empower individuals and group of people with the skills they need to make changes within their communities.

Social responsibility includes employee relations (ER), and human resource represents intellectual property and the engine of value in every firm (Usman & Amran, 2015). ER includes employee welfare, engagement, representation, participation, involvement, and training. Recruiting, promoting, disciplining employees and promoting workplace health should not be a difficult task to firms. Employers may benefit from employee diversity by hiring employees from diverse backgrounds, regardless of gender, race, handicap, age, or creed. Companies may enhance their reputation and revenue by implementing environmental policies that successfully exploit and control the company's scarce and irreplaceable assets (Branco & Rodrigues, 2006).

Profitability is a company’s ability to generate new resources, from day-to-day operation over a given period of time and it is gauged by net income and cash from operation (Poundel, 2012). It is used to measure firm’s overall financial health over a given time period and could also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

Female Board Membership (FBM) is the presence of women as Board members of a company. According to Companies Act 2013, Section 149(1) provides that every listed company should have at least one female as a director on its board. Chen (2021) observed that it is common for the board of directors to convene at regular intervals to develop corporate management and oversight procedures. He added that there must be female directors (FD) in the board of every public and private firm, regardless of whether it is for-profit or not-for-profit; an organization's internal governance structure would not be complete without a FD.

The primary responsibility of the corporate FD is to keep a close eye on management and to ensure that the interests of the company's principals and agents are aligned. Women have

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traditionally been under-represented on the boards of companies, but after some social and legal pressure their presence was increased (Garcia et al, 2018). In an industry, there are firms of varying sizes, and the costs of production in these firms of different sizes vary. Economists are concerned with the best size of business unit, that is, a firm in which the average cost of production per unit is the lowest (Dang et al. 2015). This study employed firm size as the control variable, this to take cognizance of the fact that non-financial services firms in Nigeria are of different sizes in order to bring them to the same platform.

Theories are vital, they guide and give meaning to what we see and do. Theory explains how some aspect of human behavior or performance is organized, and enables us make predictions about the behavior. Legitimacy theory was propounded by Dowling and Pfeffer in 1975, and it is still in use today. This theory hypothesized that firms revealed social responsibility information to project a socially responsible image to their stakeholder groups, allowing them to rationalize their actions. Legitimacy theory is predicated on the notion that there exists a social contract between a business and the rest of society (Dowling & Pfeffer, 1975). Deegan's view on legitimacy theory is the concerned with the establishment of a social compact between a corporation and the society in which the corporation works (Deegan, 2002). Based on legitimacy theory, a company strives to operate within the boundaries and standards of the society in which it operates continuously (Deegan, 2002; Dowling & Pfeffer, 1975; Frynas & Yamahaki, 2016).

Institutional theory is another theory developed in the late 1970s by Meyer and Rowan. Institutional theory is a technique of understanding how organizations fit into, are connected to, and have been affected by their socio-cultural and institutional surroundings, as well as their state, national, and global environments. In accordance with institutional theory, businesses must alter their behavior to comply with social standards in the business environment in which they operate because they will not survive unless they get a certain amount of social acceptability from their customers (Meyer & Rowan, 1977; DiMaggio & Powell, 1983).

Many businesses have developed systems, rules, conventions, and routines to serve as recommendations for how they should conduct themselves in social situations. Rather than investing practices, companies are compelled to do so by external causes; organizations adopt practices because they were accepted as the way we do things. Continuity of the firm was threatened if firms do not satisfy external demands and conform to recognized forms; if firms do not fulfill these needs and conform to accepted forms, the firm's survival is threatened (DiMaggio & Powell, 1983). In view of the above, the forces generated by intuitional theory invariably push businesses to participate in environmental management practice initiatives. From the two theories discussed above, Institutional theory anchored this study.

In this study on non-financial services firms in Nigeria from 2003 to 2012, Edom et al. (2015) studied the impact of human resource management on Access Bank Nigeria Plc's profitability. Profitability was proxy by retained profit, while human resource accounting was represented by staff development and training. The study's operating data came from the firm's yearly audited and published financial statements (single bank). The data obtained were regressed using the ordinary least squares regression approach. The analysis revealed that staff training and development costs positively impacts bank profitability. It indicates that increasing employee training and development costs increase corporate profitability. The study has contributed to the academic literature, although it has limitations. The research was on Access Bank (financial sector), and ended in 2012. The current research focused on non-financial enterprises in Nigeria from 2011, ending in 2021 (11 years) with female director as the moderator variable. This study seeks to fill these existing gaps.

Mulolli and Boskovska (2020) investigated the relationship between human resource practices and profitability in Kosovo. The completed and returned surveys were evaluated using descriptive and correlation analysis. The study showed that there was a relationship between HR practices and financial success. The study added to the human resource literature but had several shortcomings. The study focused on Kosovo and used a questionnaire to collect data. The current study uses non-financial services enterprises in Nigeria as domain and female directors as the moderating variable. This study aimed to cover these gaps.

Ejeje et al. (2021) explored the effect of community development cost on the turnover of quoted manufacturing companies in Nigeria. The data of turnover of the companies were collected for analysis, using ANOVA and regression analysis technique, after the normality test, serial correlation, Heteroskedasticity and multicollinearity, the outcome indicated that community cost exert significant effect on profitability of firms. The study contributed immensely to the literature on community development; however, it contained gaps. Sales revenue was used as the measure of turnover and no moderating variable was considered in the study, this served as a guide for the present study as the present study used ROA as the proxy for profitability, and the use of moderating role of FBM is employed in this study.

Oti and Mbu-Ogar (2018) investigated the operations of mining companies and social disclosure on the profitability of listed oil and gas companies in the NGX for the period from 2012 to 2016). The data for community development, waste management, employee health and safety, and return on capital employed (ROCE) for five (5) oil and gas companies were extracted from their annual report. The acquired data were analyzed with the assistance of ordinary least squares (OLS) regression analysis method, and the outcome revealed that disclosure on employees' health and safety (EHS) together with community development do not have significant effect on the profitability of firms.

The study has demonstrated well as it provided a pathway where other studies could follow, however, it contains limitations. Only the oil and gas sector were considered for the study, the result obtained could probably not be used to represent other non-financial sectors. The year 2016 was when the study terminated; any result obtained could be regarded as outdated and ineffective, the number of companies (five firms) under study is so limited. The present study terminated in 2021 covering 11 years, and a female director was employed to moderate the nexus between dependent and independent variables.

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James and Luke (2014) investigated how the quality cost of goods may be regulated and its impact on company profitability in Nigeria. A total of 64 questionnaires were distributed, with 50 completed, returned and used for the study in Bayelsa State. Related data were obtained from the NGX's published audited financial statements. The Quality cost management was regressed against business profitability using automated and correlation analysis. The results showed a strong link between quality cost management and profitability. It was thus, advised that management implement a quality cost management system to help enterprises control their quality costs. The study had solid scientific foundations but had some limitation. The survey solely looked at Bayelsa State motels, fast food, and confectioneries. The coverage is limited as does not include states in Nigeria. The current study ended in 2021 and used secondary data for both dependent and independent variables to fill up the identified gaps.

DATA AND METHODOLOGY

This study employed ex-post facto research design, with the population of 74 non- financial services firms listed on the Nigeria Exchange (NGX) as at 31st December, 2021. However, judgmental sampling method was adopted through filtering to arrive at the sample of 41 firms for 11 years from 2011 to 2021. The filtering is by scoring method of dichotomous (un-weighted). The disclosure quantity was estimated based on the inclusion or exclusion of each item in the individual annual report (Ahmad *et al.*, 2016; Scholten, 2009; Senan *et al.*, 2021; Usman & Amran, 2015). If an item was reported in the annual report, a score of one (1) is assigned; otherwise, a score of zero (0) is assigned. Employee relation represented by employee relations disclosure (ERD), local community development represented local community disclosure (LCD), and quality assurance represented by quality assurance disclosure (QAD), while dependent variable (profitability) represented by return on asset (ROA). Based on the foregoing, this study adopted the model from the work of Molla (2021) with some changes and the model is presented as:

$$ROA_{it}= \alpha + \beta_1CSP_{it} + \beta_2BRDSIZE_{it} + \beta_3FRMSIZE_{it} + \beta_4LEVRGE_{it} + \beta_5GENDIVit +\varepsilon it \ldots\ldots (i)$$

$$ROA_{it}= \alpha + \beta_1CSP_{it} + \beta_2BRDSIZE_{it} + \beta_3FRMSIZE_{it} + \beta_4LEVRGE_{it} + \beta_5GENDIV_{it} +\beta_6GENDIV*CSP_{it} +\varepsilon it\ldots\ldots (ii)$$

Following Molla (2021), the moderated regression models was developed to test for the moderation effect of FBM on the link between LCD, QAD, ERD and profitability as developed and expressed in mathematical equation as follows:

$$ROA_{it} = \beta_0 + \beta_1LCD_{it} + \beta_2QAD_{it} +\beta_3ERD_{it} + \beta_4FBM_{it}+ \beta_5FSIZ_{it} + \varepsilon it\ldots\ldots (i)$$

$$ROA_{it} = \beta_0 + \beta_1LCD_{it} + \beta_2QAD_{it} +\beta_3ERD_{it} + \beta_4FBM_{it}+ \beta_5FBM*LCD_{it} + \beta_6FBM*QAD_{it} + \beta_7FBM*ERD_{it} + \beta_8FSIZ_{it} + \varepsilon it\ldots\ldots (ii)$$

Where:

ROA = return on equity; LCD = local community disclosure; QAD = quality assurance disclosure; ERD = employees relation disclosure; FBM = female board membership; FSIZ = firm size; β_0=Constant; β=Regression coefficient; ε= error term; i=Observation; t= Year of observation.

The variables used for the study are clearly defined with their measurement stated in Table 1.

RESULTS AND DISCUSSION

In this section, the data collected was interpreted using pool Ordinary Least Square as the technique for data analysis. It begins with descriptive statistics, correlation matrix and pool OLS regression analysis.

Table 1 *Descriptive Statistics*

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	451	4.823	2.005	1.25	9.8
LCD	451	.612	.488	0	1
QAD	451	.313	.464	0	1
ERD	451	.965	.185	0	1
FBM	451	1.153	1.213	0	5
FSIZ	451	7.122	.927	5.24	9.33

Source: Author's Compilation from STATA Version 13 output.

Table 2 showed the descriptive statistics of the return on assets (ROA), local community disclosure (LCD), quality assurance disclosure (QAD), employees' relation disclosure (ERD), female board membership (FBM) and firm size (FSIZ) with 451 observations. The Table indicated a mean of return on asset (ROA) of 4.823 with a standard deviation of 2.005, and minimum and maximum values of 1.25 and 9.8 respectively. This implies that on the average, the ROA among the non-financial listed firms in Nigeria is 48% and it deviates from both sides of the mean by 2.005. This suggests a wide dispersion of the data from the mean because standard deviation is slightly lower than the mean value.

Table 2 also showed that the measure of employee relation disclosure (ERD) of listed non-financial firms in Nigeria has a mean value of 0.965 with a standard deviation of 0.185, and minimum and maximum values of 0 and 1 respectively. This implies that the average ERD is within 0.965 and ranges between 0 and 1. The standard deviation from both sides of the mean is 0.185. This suggests that that the dispersion of the data from the mean is mild because the standard deviation is lower than the mean value of 0.965.

Furthermore, the mean value of quality assurance disclosure (QAD) during the period of this study is 0.313, and it ranges between 0 and 1 with a standard deviation of 0.464. The average score of LCDS is 0.612, and a standard deviation of 0.488, with a minimum and maximum score of 0 and 1 respectively. The mean score of FBM was 1.153, while the minimum and the maximum value was0and 5 respectively. This implied that the deviation from the mean is

1.213. Finally, firm size (FSIZ) has a mean and standard deviation 7.122 and standard deviation of 0.927, and it ranges between the value 5.24 and 9.33. The descriptive statistics analysis of the variables of this study shows the nature and extent of dispersion of the data, which suggest that majority of the data did not conform to the normal curve.

The result from Table 2 shows that QAD, ERD, FBM∗LCD and FBM∗ERD of the manufacturing firms in Nigeria are positively associated to ROA with the coefficient values of 0.058, 0.096, 0.014 and 0.009 with p-value of 0.221, 0.041, 0.766 and 0.842 respectively. LCD, FBM and FBM∗QAD with coefficient values of -0.007, -0.003, -0.008, and p-values of 0.880, 0.956 and 0.867 respectively are negatively associated to ROA. Not all the variables are significant at any level of significance, except ERD that is significant at 5% level of significance. On the other hand, FBM∗QAD, FBM∗LCD and FBM∗ERD, do not show significant at any level of significance. The results showed that ERD has statistically and perfect positive relationship with ROA, meaning as ERD increases, ROA also increases; QAD is statistically insignificant with positive relationship at 5% level of significant while LCD is statistically insignificant with negative relationship at 5% level of significant. It therefore means that as QAD and ERD does not affect ROA. Similarly, FBM and FSIZ have perfect negative relationship with other variables. The results from the correlation matrix indicate the absence of multicollinearity issues in this study.

A multiple regression analysis was conducted to examine whether LCD, QAD and ERD can significantly predict how ROA is affected in this study. The analysis also tests whether the effect of ED on ROA is moderated by FBM. The results for the analysis of model I and model II are reported in Table 4 and 6 respectively, while detailed results are reported in appendices.

This Table consists of regression results of model I without moderating variable.

Table 3 *Model I Regression Results- Fixed Effect Model (FEM)*

ROA	Coef.	St.Err.	t-value	p-value
LCD	-.136	.277	-0.49	.625
QAD	1.219	.414	2.94	.003
ERD	.998	1.033	0.97	.334
FBM	-.324	.126	-2.58	.01
FSIZ	-.039	.561	-0.07	.945
Constant	4.213	3.873	1.09	.277
R- Squared	0.034			
F-Test	2.812			

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This Table consists of regression results of model I with moderating variable.

Table 4 *Model II Regression Results – Random Effect Model (REM)*

ROA	Coef.	St.Err.	t-value	p-value
LCD	-.298	.293	-1.02	.309
QAD	1.19	.392	3.04	.002
ERD	2.808	1.975	1.42	.155
FBM	1.634	2.043	0.80	.424
FBMLCD	.17	.184	0.93	.355
FBMQAD	-.493	.206	-2.39	.017
FBMERD	-1.673	2.052	-0.82	.415
FSIZ	-.227	.15	-1.51	.131
Constant	3.644	2.217	1.64	.1
Mean dependent var		4.823		
Overall r-squared		0.036		
Chi-square		15.228		
Prob> chi2		0.055		
SD dependent var		2.005		
Number of obs		451		

Table 4 is the regression results for model II that showed the interaction of the moderating variable, and firm size (FSIZ) as control variable. This table further revealed clearly that the direct relationship results of employees' relation disclosure (ERD) as moderated by female board size (FBM⁎ERD) with a coefficient value of -1.673, t-value of -0.82 with a corresponding insignificant p-value of -0.415. This connotes that the direct relationship of ERD as moderated by FBM has a negative insignificant impact on ROA of manufacturing firms in Nigeria at no level of significance. This implies that for every 1% increase in FBM⁎ERD, there was no corresponding decrease of ROA, though the relationship was not statistically significant. As observed from table 5 above, the result of ERD without moderation had a positive statistically insignificant impact on ROA, whereas, there exist a negative and insignificant impact relationship between FBM⁎ERD and ROA of the sampled firms. This therefore, implies that FBM changed the direction of the relationship between ERD and ROA. The result validates and confirms hypothesis 2 (H_{02}) that ERD has no significant moderating effect on the relationship between the FBM and ROA of listed non – financial services firms in Nigeria.

Similarly, from Table 5, it was observed that the combined and moderated result of female board size and quality assurance disclosure (FBM⁎QAD) has a coefficient value of -0.493, t-value value of -2.39 and a p-value of 0.017. This connotes that the indirect relationship of QAD as moderated by FBM has a negative significant impact on ROA at 5% level of significance. This implies that for every increase FBM⁎QAD, there is a corresponding decrease of -0.493% on the ROA of listed non – financial services firms in Nigeria. This result did not conform to the apriori expectation of the researcher. As observed from table 5 above, the result of QAD without moderation had a positive and significant impact on ROA whereas there exist negative and significant impacting relationship between FBM-QAD and the ROA

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of the sampled firms. This, therefore, implies that female board size changed the direction of the relationship between QAD and ROA.

Also from Table 5, it could be seen that the combined and moderated result of environmental expenditure disclosure and return on assets (FBM*LCD) has a coefficient value of 0.17, t-value of 0.93, and p-value of 0.355. This shows that the indirect relationship on LCD as moderated by FBM has a positive insignificant impact on ROA of listed firms at no level of significance. As observed from Table 5, the result of LCD without moderation had a negative insignificant impact on ROA, whereas, there exist a positive and insignificant impacting relationship between local community and return on assets moderated by female board membership of the sampled firms. This therefore, implies that FBM changed the direction of the relationship between LCD and ROA. The result validates and confirms hypothesis 6 (H_{06}) that female board size has no significant moderating effect on the relationship between LCD and ROA of the sampled firms.

From the regression results of model I and II in Table 4 and 5 respectively, the coefficient of determination (R^2) shows the value of 0.034 (3.4%) and 0.036 (3.6%) respectively. This indicate that explanatory variables (LCD, QAD and ERD) explained 3.4% of dependent variable (ROA) in model I while in model II explanatory variables (LCD, QAD, and ERD) explained 5.7% of dependent variable (ROA). According to Moksony (1999), in his article titled 'small is beautiful: the use and interpretation of R^2 in social research', states that the popular view of high coefficient of determination that measures the explanatory power of the variables included in a regression model is rather misleading. The high respect researchers commonly have for the coefficient of determination does not seem to be warranted; the popularity of R^2 derives, it appears, much more from its rhetorical value than from its actual accomplishments. No matter how low is the value of coefficient of determination, it also serves good purpose similar to high coefficient of determination.

Furthermore, Gujarati *et al.* (2012) supported that, some empirical analysis obtain a very high R-square, yet the regression coefficients were found to be either statistically but not significant, or they are found to be contrary to a priori expectations. They added that in regression analysis, the objective is not to obtain a high R-square but rather, to obtain dependable estimates of the true population regression coefficients so as to draw statistical inferences. Therefore, they implored researchers to be more concern about the logical or theoretical relevance of the explanatory variables to the dependent variable and their statistical significance. However, the classification of having a high or low R-square is dependent on the nature of the data used in the study.

CONCLUSION AND RECOMMENDATIONS

In view of the findings, this study concludes that female board membership was able to moderate the relationship between quality assurance disclosures (QAD) to profitability; this shows that FBM affects the QAD relationship to profitability due to their emphasis and commitment to the development of quality products. However, FBM was unable to moderate the relationship between employees' relation disclosure (ERD), local community disclosure (LCD) and profitability. These show that FBM do not affect the relationship between ERD, LCD and ROA of non-financial services firms in Nigeria. With reference to the conclusion drawn on findings, this study recommended that the management of non-financial services firms in Nigeria should have a rethink over the expenditure to be incurred on the production of quality products. In the same vein, FBM could be considered for other purposes and not as moderator so, as to prevent further adverse effect on profitability of listed non-financial services firms in Nigeria. It is possible that the female personalities hitherto used as board members were not on the basis of experience, education qualification, but rather based on political appointment of unqualified persons.

The findings of this study have several implications to stakeholders and manufacturing firms in Nigeria. In the testing of moderation effect, it was found that female board membership moderated the quality assurance disclosure relationship against profitability. The higher the FBM action resulting in a decrease quality assurance disclosure, in turn, will reduce financial performance indicating that return on assets in the firms decreases.

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