

# Firm Characteristics and Financial Performance: Evidence from Quoted Manufacturing Firms in Nigeria

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## ABSTRACT

This study ascertained the relationship between Firm Characteristics and Financial Performance with a focus on quoted manufacturing firms in Nigeria. The specific objectives are to ascertain the relationship between Leverage, Board Size, and Tobin's Q of quoted manufacturing firms in Nigeria from 2010-2019. This study employed the use of Panel Data and Ex-post facto research design. Secondary data were sourced from the publications of Nigeria Stock Exchange (NSE) and annual reports and accounts of the sampled firms. The data analyses were done through descriptive and inferential statistics. Descriptive statistics was done using trend analysis and multiple comparison of mean standard deviation of variables. Multivariate linear regression analysis via E-Views 9.0 statistical software was used to test the hypotheses. The findings of this study are inter alia; leverage and board size has significant negative relationship with Tobin's Q at 5% level of significance. It was recommended amongst others that firms need to use proportionate debt financing in relation to total capital financing in order to reverse the inverse relationship between leverage and Tobin's Q. Therefore, firms need to use debt financing up to a point where any extra debt financing reduces net cost to the firm.

**KEYWORDS:** Firm characteristics, financial performance, manufacturing firms

## INTRODUCTION

The performance of any firm not only plays the role to increase the market value of that specific firm but also leads to the growth of the whole industry, which ultimately leads to the overall prosperity of the economy. Performance is the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed.

Firm performance, which shows if the resources of a firm are used effectively, efficiently and economically to fulfill the goal of the firm is crucial in evaluating the overall success of the firm (Parker 2000). For performance evaluation, firms look at both financial and non-financial criteria. Measures such as Return on Assets (ROA), Return on Equity (ROE), Tobin's Q and Earnings Per Share, (EPS) are financial performance measures that are most frequently used. Stern, Shiely and Ross (2004) opined that Return on Assets (ROA) and Return on Equity (ROE), Tobin's Q are better indicators of corporate performance because they include the statement of

financial position and statement of comprehensive income. Financial performance has been the primary concern of business practitioners in all types of organizations since financial performance has implications for organization's health and ultimately its survival. High performance reflects management effectiveness and efficiency in making use of company's resources and this in turn contributes to the country's economy at large (Naser & Mokhtar, 2004).

Financial managers and researchers face the problem of association between a firm's assets configuration and its equity worth. Consequently, we may say that existing finance literature supports the idea that the benefits of firms are based on choice of capital structure. In real life situation, firm characteristics either affect the performance of firms or not. Over the past few years, there have been increasing studies on the determinants of firm's financing operations and investment strategies and their implications towards

*How to cite this paper:* Okafor, Tochukwu G. | Ossai, Eke Celestine "Firm Characteristics and Financial Performance: Evidence from Quoted Manufacturing Firms in Nigeria" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-5 | Issue-6, October 2021, pp.821-834, URL: www.ijtsrd.com/papers/ijtsrd47517.pdf



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the firm performance. Firms usually develop their financial energies and operating performance through acquisition and merger or outsourcing (Doan & Nguyen, 2011) as well as expanding plants and equipment, updating technologies, and innovating products to maintain competitive and sustainable advantages (Díaz & Rodríguez, 2008). Consequently, firms generally keep their competitiveness to rely on successful capital expenditures strategies and funding sources during an effective promotion of strategies and planning. Corporations prefer internal financing, especially, as interest costs are not involved, and the limitations are less than other modes. However, if the source of funds for internal financing is less than capital expenditure, corporations will then consider external funds for financing. When firms issue equity securities for financing, they will increase price per shares to reveal good performance for attracting investors. When firms increase debts, the corporate value will likely depreciate due to higher bankruptcy risk and agency costs after the debts have increased to a certain level. The interplay of debt and equity is referred to as the Trade-off Theory. Thus, large service firms tend to have higher amount of debt, which conforms to the Trade-off Theory.

Firms are presumed to be operating on a going concern basis and hence have perpetual life. In reality, this may not be the case as companies often fail under unforeseen circumstances. Despite good rating and aggressive strategies, firms still encounter financial distress problems. The question then arises on what firm characteristics really affect financial performance in Nigeria? Firm characteristics are conceptualized differently by various studies depending on the criteria used to define it. But the poser is, which characteristics really provide independent information about financial performance? Firm characteristics such as firm size, liquidity, leverage, sales growth, board structure and composition, asset growth, turnover, dividend payout and growth prospects are argued to have an influence on financial performance. Many studies have been done to investigate the effect of certain firm characteristics on financial performance, but what is amazing is that many studies have concentrated on only a few if not one firm characteristic and have used others as control variables even though results of their findings show that the “other firm characteristic” actually have a significant effect on financial performance.

Furthermore, studies on the relationship between firm characteristics and firm performance have generated mixed results ranging from those supporting a positive relationship to those opposing it. A positive

relationship between firm characteristics and performance was found by Banchuenvijit, (2012); Ezechukwu and Amahalu (2017), whereas others such as Dogan (2013), Ondiek (2010) have a contrary view arguing there is a negative relationship between firm characteristics and firm performance. From the foregoing, it could be seen that some firms perform better than others. The question is “What are those characteristics succeeding firms have, that the other poorly performing firms do not have? Could there be firm characteristics that studies in Nigeria may have overlooked? Again, many studies done either used a few of these firm characteristics and subjected others as control variables or they failed to consider both financial and non-financial firm characteristics in their studies even though they acknowledge that these “so called control variables” have an impact on firm performance. Moreover, the agricultural and health care industry have been neglected by most researchers in Nigeria, thereby, creating a gap in knowledge. The researcher intends to fill this gap by studying both financial and non-financial firm characteristics from 2010 to 2019 to see how they affect the firm financial performance especially in the manufacturing sector. Furthermore, in attempt to bridge the sectoral gap, this present study will extensively cover the entire four (4) manufacturing sectors as against a mono-sector considered by previous studies. This study intends to see how the combined effect of these variables (both financial firm characteristics such as leverage as well as non-financial firm characteristics such as board size and firm age) will have a synergetic effect on firm performance instead of being analyzed independently as previous researchers above.

The main objective of this study is to determine the relationship between firm characteristics and financial performance of quoted manufacturing firms in Nigeria.

The specific objectives of this study are to:

1. Ascertain the relationship between Leverage and Tobin's Q of quoted manufacturing firms in Nigeria.
2. Determine the relationship between Board Size and Tobin's Q of quoted manufacturing firms in Nigeria.

## **Review of Related Literature**

### **Firm Characteristics**

Zou and Stan (1998) describe firm characteristics as a firm's demographic and managerial variables, which in turn comprise part of the firm's internal environment. Firm characteristics have been listed by Kogan and Tian (2012) to include firm size, leverage, liquidity, sales growth, asset growth, and turnover.

Others include ownership structure, board characteristics, age of the firm, dividend pay-out, profitability, access to capital markets and growth opportunities (Subrahmanyam & Titman, 2001; McKnight & Weir, 2008).

Vogt (1997) argues that the more a firm has free cash flow the more it engages into capital investment, and hence the higher the financial performance. Smaller firms gear towards rampant growth, thereby utilizing most or all the available free cash flow in a bid to better financial performance. The relationship between free cash flow and investment is stronger in small and medium firms which generally, are in the growth stage. Adelegan (2009) on the other hand notes that the effect of size is neutral and that older firms tend to rely more on internal funds to finance their corporate investments than the small and medium firms. Firms that are new require time to adapt to the environment. A new firm needs to catch up with an older firm when the new firm's performance is lower than that of the older (existing) firm so as to be competitive in the market. Therefore, it is expected that firms that are new will show higher growth rates in productivity than the older firms as a result of high free cash flow. Hence, age of the firm is negatively correlated with productivity growth rate because older firms have lower free cash flow (Brouwe, Kok & Fris, 2005).

### Financial Performance

Financial performance can be described as a measurement of how well a firm uses its assets from its primary mode of business to generate revenue. The term is also used as general measure of firm's overall financial health over a given period of time. Ezechukwu and Amahalu (2017) defined financial performance as measuring results of a firm's policies and operations in monetary terms and these results are reflected in firm's return on investment, Tobin's Q, return on assets, value added etc. Neely (2011) observes that financial performance measures, mainly serve three purposes. Firstly, they serve as a tool of financial management, secondly they serve as major objectives of business e.g. to have a 40% ROA and lastly they serve as a mechanism for motivation and control within an organization. Many researchers have used different financial performance measures. Nash (2003) says that the best indicator of financial performance is profitability. Doyle (1994) points that profitability is the most commonly used measure of performance in Western companies. Other scholars cite that the frequently used financial performance measures in studies are profit margin, return on assets (ROA), return on equity (ROE) etc. and Tobin's Q, (Robinson, 2002; Galbraith & Schendel, 2003).

Most recently, Sauaia & Castro Junior (2001) examined the Tobin's Q as a measure of a company's performance in a multinational management game in Pakistan. They found that Tobin's Q is a relatively strong predictor of a company's financial performance and earnings.

William, (2015) carried out a research on which proxy is better to measure a firm's value or financial performance. The research tested 41 companies in the Agriculture and Mining sub-sector in the Indonesian stock exchange for the period 2010 – 2014, using purposive sampling technique and ordinary least square regression analysis. In general, the study recommends the use of Tobin's Q as a proxy for the measurement of a firm's financial performance.

### Leverage and Financial Performance

Financial leverage can be described as the extent to which a business or investor is using borrowed money. Financial leverage is a measure of how much firm uses equity and debt to finance its assets. As debt increases, financial leverage increases. It has been seen in different studies that financial leverage has the relationship with financial performance. This study is to ascertain the influence of firm's characteristics on a firm's financial performance and to investigate whether financial leverage as a firm characteristic has an effect on financial performance by taking evidence from listed manufacturing firms in Nigeria.

Progressive economic growth in a country is essential for effective and sound decision making of firm's financial policies. Capital structure is one of the most significant areas of firms' strategic financial decision-making. Several economic and institutional factors drive the economy towards a certain direction and play a vital role in influencing the firms' choices of leverage.

In Nigeria firms use financial leverage to meet their financing needs but they are not aware of how it is affecting their financial performance and hence increasing shareholders return. But question also arises on how much leverage they should use? It all depends upon their ability to generate sales to meet the debt burden. And also it depends on the economic conditions in Nigeria. The ability of financial managers to mobilize funds is always very difficult. Therefore, the maximum benefit derivable from the use of these funds is also very difficult to measure. Mostly, some finance managers get benefit from the use of financial funds, while some cannot get successes in the use of financial funds (Madan 2007). The corporate performance makes provision for investment which is based on debt and equity (Raza 2011). The short- term and long- term benefits are attained through the idea of capital structure (Jermias,

2008). The tax reward of debt and the choice of debt, cost of debt and managerial discretion are based on capital structure theories (Modigliani & Miller 1963), and (Harris & Raviv 1991).

According to the idea of Pecking order theory that firms will try to provide liquid assets without giving proper consideration to the best capital arrangement (Singh & Faircloth, 2005).

The association between productivity cost of capital and structure of capital amongst the construction and development of companies of Hong Kong was inspected by Hung et. al (2002). The outcome advocates that structure of capital is significantly positively associated with assets and is negatively associated with earnings. Madan (2007) and Ebaid, (2009) suggested that generally efficiency of the foremost hotels in India is checked by the role financing decision. The financing decision show that financial leverage works for only for a few companies. Ojo (2012) documented that leverage significantly affects corporate performance in Nigeria.

### **Board Size and Financial Performance**

Corporate boards of directors play a central role in the corporate governance of modern companies, and hence understanding this relationship is very important to our understanding of corporate governance. Much of the public debate on board structure has centered on pressure for smaller board size. It is argued that although larger board size initially facilitates key board functions, there comes a point when larger boards suffer from coordination and communication problems and hence board effectiveness (and firm performance) declines (Lipton & Lorsch, 1992; Jensen, 1993). The empirical evidence (reviewed below) appears to support this view, with a majority of studies documenting a significantly negative relation between board size and corporate performance. If larger board size indeed causes worse performance, then larger boards would represent inefficient governance that could possibly be improved by a “one size fits all” approach to board size. For example, influential scholars have argued that board size should be no greater than 8 or 9 (Lipton & Lorsch, 1992; and Jensen, 1993) for all firms. Hence the findings have important regulatory implications.

However, this interpretation is by no means universally held. A number of recent studies (Coles et al., 2008; Guest, 2008; and Linck et al., 2008) showed that board size is determined by firm specific variables, such as Tobin’s Q, profitability and firm size. Since firm performance has a negative impact on board size, previous studies have been heavily

criticized for not adequately controlling for endogeneity problems (Wintoki, 2007). To address this, Wintoki (2007) employs a generalized method of moments (GMM) estimator that allows board size to adjust to past performance, and finds no relationship between board size and firm performance. Additionally, since board size is determined by firm specific characteristics, the impact of board size on performance may differ according to these characteristics. Consistent with this, Coles et al. (2008) find that the impact of board size on firm value is positive for large firms, and hence large board size may be an optimal value maximizing outcome for such firms.

The relationship between board size and performance may differ not just by firm specific characteristics but also by national institutional characteristics. In countries with different institutional backgrounds, the functions of boards are different, and therefore the expected board size - performance relation may be expected to differ.

### **Empirical Review**

Kaguri (2013) determined the relationship between firm characteristics (size, diversification, leverage, liquidity, age, premium growth and claim experience) and financial performance of life insurance companies in Kenya over the period of 2008-2012 was obtained on the financial performance from the annual reports and audited financial statements. Data collected was analyzed using SPSS (Statistical Package for Social Scientists). Regression analysis was used to analyze the data. The study findings indicated that the variables are statistically significant to influencing financial performance of life insurance companies as indicated by the positive and strong Pearson correlation coefficients. Mahfoudh, (2013) sought to find the effect of selected firm characteristics namely firm size, leverage, firm age, liquidity, and board size on firm financial performance as measured by return on assets. The study used correlational research design in an attempt to investigate the effect of firm characteristics on firm financial performance and also the extent of causation was documented by running a multivariate linear regression analysis. The study’s population was seven agricultural firms listed at the Nairobi Securities Exchange and the researcher selected six out of the seven listed firms due to inaccessibility of the seventh listed firm from the year 2007 to 2012. The study evidenced that the only variables that were statistically significant were liquidity and board size and the other three variables that were not statistically significant were namely firm size, leverage and firm age. Shehu and Ahmad (2013) investigated firms’

characteristics from perspective of structure, monitoring and performance elements and the quality of financial reporting of listed manufacturing firms in Nigeria from 2005-2011. The study adopted correlational research design. Pooled balanced panel data of twenty-four (24) firms served as sample of the study using multiple regression was used as a tool of analysis. The result reveals that larger and more leveraged firms in Nigerian manufacturing sector are less likely to manage earnings and increase in sales. Institutional investors serve as a monitoring tool of preventing managers from opportunistic behaviour in managing earnings. Mirza and Javed (2013) examined the possible association between financial performance of the firm and economic indicators, corporate governance, ownership structure, capital structure, and risk management in Pakistan. The present study examines the performance of firms in terms of profitability and its association with multiple determinants for sixty (60) Pakistani corporate firms listed in Karachi stock exchange for the period of 2007 to 2011 and attempts to explain the observed behavior with the help of fixed effect model. The results consistently support the potential association between firm's financial performance and economic indicators, corporate governance, ownership structure, and capital structure. The study found evidence in support of the hypotheses that a positive association exists between corporate governance, and risk management and performance while mixed results are observed for other variables. Suntraruk (2013) investigated the association between good corporate governance and firm-related characteristics of listed firms in the Market for Alternative Investment (MAI), Thailand. Using the logistic regression analysis, results from this study revealed that the return on assets (ROA) and free cash flow are significantly related to good corporate governance. Since these two variables measure the profitability of firms, it was concluded the good governed firms have a higher profitability than the poorly governed ones. However, the debt-to-equity ratio, current ratio, assets turnover, firm's growth, earnings per share, dividend yield, age of firms, and size of firms are not statistically related to good corporate governance. Khaled, Abdulkareem, Chew and Mohammad (2014) provided empirical evidence of the impact of firm specific characteristics on corporate financial disclosures amongst United Arab Emirates (UAE) companies from 2008-2012. A total of 153 public, joint-stocks companies, listed and unlisted, were incorporated at the time of study. Both descriptive statistics and multiple regression analyses were used to test the relationship between the characteristics of UAE firms and the extent of their financial

disclosure. The results of this study show that listing status, industry type, and size of firm are found to be significantly associated with the level of disclosure. Topal and Doğan (2014) tested the impact of the board size on the financial performance of the firms. The study's sample utilizes data from 2002-2012 belonging to 136 firms operating in manufacturing industry section of Borsa Istanbul (BIST). In empirical analyses, robust estimator developed by Beck-Katz (1995) was used. The results of the conducted analyses suggest a positive relation between the board size, and Return on Asset and Z Altman score. Okpara (2014) evaluated the impact of financial structure on the performance of quoted firms in Nigeria. By examining the impact of: (i) total debt ratio on performance of quoted firms in Nigeria, (ii) long term debt ratio on performance of quoted firms in Nigeria and (iii) short term debt ratio on performance of quoted firms in Nigeria. The study adopted ex-post facto research design. Panel data collated from the annual reports of 51 sampled firms and Nigeria Stock Exchange fact books over a 12-year period (2001-2012) were employed. Data were subjected to pool Ordinary Least Square (OLS), Fixed Effects, and Random Effects regression model to test the hypotheses of the study. Financial structure proxied by total debt ratio (TDR), long-term debt ratio (LTDR) and short-term debt ratio (STDR) were adopted as independent variables. Firm performance as the dependent variable was proxied by return on asset (ROA). Results emanating from the tests of the three hypotheses reveal that total debt ratio have negative and significant (coefficient of TDR = -0.0776,  $p < 0.05$ ) impact on the performance of Nigerian quoted firms; Long term debt ratio have negative and significant (coefficient of LTDR = -0.0479,  $p < 0.05$ ) impact on the performance of Nigerian quoted firms; and short term debt ratio have negative and significant (coefficient of STDR = -0.0804,  $p < 0.05$ ) impact on the performance of Nigerian quoted firms. Inyama and Chukwuani (2014) sought to determine the significance and nature of the interactions between firm size and financial performance in Nigeria brewery industry from 2000 to 2013. The Engle and Granger 2-step co integration approach, in a simple regression framework, was adopted in the data analysis with a model to estimate the error correction period. The time series data were tested for stationarity to avoid spurious regression, applying the Augmented Dickey Fuller (ADF) procedure. The test revealed that the study variables were integrated of the same order, indicating a possible co integration. Firm Size has both short- and long-term positive effect on EPS; with a significant long run influence. There is no causality

running from either EPS to Total Assets or otherwise at both periods. Bartolacci, Zigiotti, and Diem (2015) examined the effects of environmental management on financial performance of Italian urban waste management firms (WMFs). Using a quantitative, methodological approach, the tested the relationship between differentiated urban waste collections on total urban waste (UW), calculated for each of 87 Italian provinces, as well as company performance, measured by the Value Added (VA) to the 335 WMFs, operating mainly in each province, for the period 2010-2013. The results obtained from different tests highlight a statistically significant positive correlation between the level of UW and firm performance. Findings are consistent with the resource-based view and contribute to the literature on environmental and firm performance. Uwuigbe, Uwuigbe and Okorie (2015) assessed the effects of firms' characteristics on earnings management of listed companies in Nigeria. To achieve the objectives of this study, a total of 20 listed firms in the Nigerian stock exchange market were selected and analyzed for the study using the judgmental sampling technique. Findings from the study revealed that while firm size and firms' corporate strategy have a significant positive impact on earnings management (proxied by discretionary accruals); on the other hand, the relationship between firms' financial leverage and discretionary accruals of the sampled firms in Nigeria was not significant. Thus, the study concludes that large firms tend to have higher motivations and more prospects to engage in the manipulation earnings and exaggerate earnings due to the intricacy of their operations and the complexity for users to identify overstatement. Zahoor, Huma, Bader and Muhammad (2015) found the effect of financial leverage on efficiency of firms in Pakistan. The ordinary least square technique is used to detect efficiency of financial leverage of 154 textile firms in Pakistan over the period 2006-2011. The regression results indicate that leverage has a negative association with the efficiency of firms. Financial leverage is negatively associated with return of assets and equity, which shows that firms borrow less, while market-to-book ratio shows positive profitable association with firms. Consequently, firms tend to borrow more and pay their contractual payments in time. Janthorn and Navee (2015) investigated firms' characteristics relationships, especially the factor of growth, size, and age with the financial strategies in funding their operations, either internal or external financing, and their impact on financial performance improvements. The study collected the data from 242 Thai manufacturing companies listed in the Stock Exchange of Thailand (SET) from six manufacturing

industries during 2006-2010. The study was carried out using Structural Equation Modeling (SEM) to identify significant effects among these relationships. The results show that the firm growth has shown negative impact on the firms' liquidity representing the fact that more internal financing has been preferable. The firm size was shown to have negative impact on the level of leverage, but positive impact on the liquidity and financial performance improvement. Ongore and Ogutu (2015) investigated the effects of board composition on financial performance. Independent members, gender diversity and board size are some of the key attributes of boards that have been linked to financial performance of companies. Using multivariate regression analysis on panel data, with Return on Assets, Return on Equity, and Dividend Yield as performance indicators, the study found out that independent board members had insignificant effect on financial performance, but gender diversity did, in fact, have significant positive effect on financial performance. Board size, on the other hand, had an inverse relationship with financial performance. Hamdan and Esra (2015) examined the impact of corporate governance characteristics on firm performance in Bahrain Stock Exchange. The study sample contained 42 Out of 48 Bahrain's financial companies which are listed in Bahrain Stock Exchange during the period 2007-2011. The descriptive results indicated that our sampled firms fulfill corporate governance variables about 61.2% for the entire period in the study. The empirical results indicate that performance measures such as Return on Assets and Return on Equity are significantly related to corporate governance in Bahrain. However, Earning Per share performance measure is not showing any significance impact related to corporate governance. Overall, this study found a positive influence of corporate governance mechanisms on performance for the entire firm in Bahrain Stock Exchange. Ahmet (2016) ascertained the relationship between firm characteristics and accounting fraud. The primary objective of the study is to establish an empirical model that significantly contributes to the development of a reliable model for detecting accounting fraud committed by firms listed on Borsa İstanbul. The results indicate that firms with low liquidity ratios are more probable to issue fraudulent financial statements, negative financial performance is a vital motivational factor for fraud, smaller firms are more likely to issue fraudulent financial statements, firms with high debt to equity are more likely to be classified as fraud firms and fraud firms have lower accounts receivable turnover and inventory turnover than non-fraud firms. Oyerogba, Memba and Riro (2016) empirically

examined the impact of board size on the profitability of firm for the listed companies in Nigeria for a period of ten years ranging from 2004 to 2013. Specifically, the study investigated the impact of board size, firm size and firm age on return on capital employed of the selected companies. Both descriptive and inferential statistics were carried out. The results revealed that a significant positive relationship exists between the board size, firm size and return on capital employed. It was therefore recommended that listed companies should adopt the use of large board (12 members) to improve the profitability. It is also needful for the listed companies to increase the capital based as this was found to have positive impact on the profitability of listed companies in Nigeria while the policy makers are encouraged to provide adequate guidelines on the selection of board members. Ogbuide and Akanji (2016) examined executive remuneration and firms' performance in Nigeria. Specifically, the study seeks to ascertain the nexus between executive remuneration, firm size and board size variables and the performance of quoted companies. A sample of sixty (60) companies excluding non-financial firms was selected for the period 2013 and 2014. Summary statistics such as descriptive, correlation and granger causality tests were used. Inferential statistics, using panel Generalized Least Square (EGLS) with fixed effect was used for the purpose of empirical validations. This was after the application of diagnostic test to enhance the study. Board size was found to negatively affect the performance of firms and is statistically not significant. Premised on this, the study suggests that executive remuneration of quote firms should be pegged constantly in a flexible manner. This will enable shareholders know the causality relationship between what is paid to the executive and how that influence performance. Sin, Boon, Tze and Wei (2016) examined the relationship between corporate governance attributes and firm financial performance in Malaysia. The relationships between board characteristics (board tenure, board size and CEO duality) were analyzed to investigate their correlation with firm financial performances. A total of 100 public listed companies were randomly selected from Bursa Malaysia for the year 2009 to 2013. Random effect panel data regression was obtained by using Stata. This study finds that board size, board tenure were significant to Return on Equity (ROE) and Return on Assets (ROA). However, firm size has no significant relationship with firm financial performance. Ezechukwu and Amahalu (2017) assessed the extent at which firm characteristics affects financial performance of quoted deposit money banks in Nigeria from 2010-

2015. Pearson coefficient of correlation and ordinary least square (OLS) were applied to test the three hypotheses formulated with aid of STATA 13 statistical software. Findings showed that firm characteristics (proxied by Size) has a positive and statistically significant effect on financial performance (proxy by Return on Asset, Return on Equity and Return on Capital Employed) at 5% significant level. Based on these findings, the study recommends among others that banks should adequately manage how they re-invest their resource so as to prevent any form of mismanagement of resource that can guarantee their existence in business.

Many studies have been done to investigate the effect of certain firm characteristics on financial performance, but what is amazing is that many researchers have concentrated on only a few if not one firm characteristic and have used others as control variables even though results of their findings show that the "other firm characteristic" actually have a significant effect on financial performance (Nunes, Serrasqueiro and Sequeira, 2009; Dogan, 2013; Ezechukwu & Amahalu, 2017).

In the light of the above, it is glaring that some firms perform better than others in financial performance sense. The question is "What characteristics do those succeeding firms have that the other poorly performing firms do not have? Could there be firm characteristics that researchers locally may have overlooked? Many studies done either used a few of these firm characteristics and subjected others as control variables or they have not considered both financial and non-financial firm characteristics in their studies even though they acknowledge that these "so called control variables" have an impact on firm performance Nunes, Serrasqueiro and Sequeira (2009); Lee (2009); Chogii (2009); Ngila (2012) and Dogan (2013). Moreover, the agricultural industry and health care industry have been neglected by most researchers in Nigeria.

The researcher intends to fill the variable gap and periodic gap by studying both financial and non-financial firm characteristics from 2010 to 2019 to see how they affect the firm financial performance especially in the manufacturing sector. Furthermore, in attempt to bridge the sectoral gap, this present study will extensively cover the entire four (4) manufacturing sectors as against a particular sector considered by previous studies. This study intends to see how the combined effect of these variables (both financial firm characteristics such as leverage as well as non-financial firm characteristics such as board size and firm age) will have a synergetic effect on

firm performance instead of being analyzed independently as previous researchers above.

### Methodology

*Ex-post facto* research design was employed in obtaining, analyzing and interpreting the relevant data for hypotheses testing since the study utilized secondary data. The data set employed in this study were generated from Nigeria Stock Exchange fact books and annual reports and statement of accounts of quoted manufacturing firms in Nigeria.

The population of this study consists of all quoted manufacturing companies in Nigeria as at 31<sup>st</sup> December, 2019. It comprises of five (5) agricultural companies; twenty-three (23) consumer goods companies; eleven (11) healthcare companies and fifteen (15) industrial goods companies. The study used a census population consisting of all the fifty-four (54) listed manufacturing companies on the Nigeria Stock Exchange (NSE, 2019).

Purposive sampling method was employed in selecting twenty-three (23) manufacturing companies, which serve as the sample size of this study. The criteria for selection was based on firms that were quoted as at 2010 and still subsist till 31<sup>st</sup> December, 2019; firms whose annual reports and accounts were available and complete for the studied period; firms that consistently file their annual reports and statement of accounts with NSE for the studied period (without missing any year).

The data analysis shall cover the descriptive and inferential statistics via E-Views 9.0 statistical software. Descriptive statistics was done using trend analysis and multiple comparison of mean and standard deviations of the variables. Inferential statistics on the other hand shall include the Pearson correlation coefficient, multivariate linear regression analysis and Granger Causality Test. The multiple linear regression analysis will be used to ascertain the amount of variations in the dependent variable which can be associated with changes in the value of an independent or predictor variable in the absence of

### Data Analyses

other variables. The study employed Granger causality test to ascertain the direction and strength of relationship between the variables of this study.

### Model Specification

This study adopted the research model used by Ezechukwu and Amahalu (2017). The difference between this model and their model is that their model (Ezechukwu and Amahalu) did not consider non-financial firm characteristics (such as board size and firm age) to assess their effect on firm financial performance, but this model considered both.

The research model is:

$$TQ_{it} = \beta_0 + \beta_1(LEV)_{it} + \theta(\text{Ln Total Asset})_{it} + E_{it}$$

Therefore, to determine the effect of firm characteristics on financial performance, the following multivariate linear regression models were estimated:

$$\text{Model 1: } TQ_{it} = \beta_0 + \beta_1 LEV_{it} + \beta_2 DPR_{it} + \beta_3 CUR_{it} + \epsilon_{it}$$

$$\text{Model 2: } TQ_{it} = \beta_0 + \beta_1 BDS_{it} + \beta_2 DPR_{it} + \beta_3 CUR_{it} + \epsilon_{it}$$

**Where,**

$$\beta_0 = \text{Constant (intercept)}$$

$\beta_1, \beta_2, \beta_3$  = Coefficients of explanatory variables

$TQ_{it}$  = Tobin's Q of firm  $i$  in period  $t$

$LEV_{it}$  = Leverage of firm  $i$  in period  $t$

$BDS_{it}$  = Board Size of firm  $i$  in period  $t$

$DPR_{it}$  = Dividend Payout of firm  $i$  in period  $t$

$CUR_{it}$  = Current Ratio of firm  $i$  in period  $t$

$\epsilon_{it}$  = Error term.

### Decision Rule

The significance of the model was tested at 95 percent confidence level. The p-value of the F-statistic will be used in determining the robustness of the model. In other word, when the p-value is less than 0.05, it will be inferred that the model is significant.

**Table 1 Descriptive Statistics**

	TQ	LEV	BDS	DPR	CUR
Mean	0.117	0.276	5.552	0.578	0.789
Median	0.120	0.230	5.515	0.620	0.815
Maximum	0.160	0.570	13.76	0.890	0.910
Minimum	0.080	0.040	6.380	0.330	0.540
Std. Dev.	0.027	0.022	1.744	0.186	0.108
Skewness	0.487	1.062	0.467	0.081	-1.198
Kurtosis	2.290	3.507	1.696	2.001	3.927
Jarque-Bera	0.604	8.987	8.071	0.427	9.749
Probability	0.739	0.030	0.037	0.808	0.003



Sum	1.170	47.260	5.520	5.780	7.890
Sum Sq. Dev.	0.006	31.890	0.188	0.312	0.104
Observations	230	230	230	230	230

Source: E-Views 9.0 Output, 2021

### Interpretation

The descriptive statistics such as mean, standard deviations, median, maximum, minimum are shown in table 1. The number of observations of 230 was yielded from 23 companies for 10 years' period of data from 2010 to 2019. The average leverage for the observations is 0.276 as ratio of debt levels to total assets implying that on average 27.6% debt was used in financing total assets with a standard deviation of 0.022 in debt levels to total assets varying from a range of lowest observation from a firm having 4% debt levels in financing the total assets to one of the highest observations showing that 57% of debt was used in financing

total assets. The average board size for these companies was almost 6 directors having a standard deviation of almost 2 directors with the minimum number being 6 to a maximum of 14 directors serving on a board. Skewness which is a sign of rise in profit or loss reveals that but for CUR which is negatively skewed at -1.198, all other variables are positively skewed.

### Test of Hypotheses

#### Test of Hypothesis 1

**H<sub>01</sub>:** There is no significant relationship between Leverage and Tobin's Q of quoted manufacturing firms in Nigeria.

**H<sub>1</sub>:** There is significant relationship between Leverage and Tobin's Q of quoted manufacturing firms in Nigeria.

**Table 2 Panel Least Regression Analysis between Leverage and Tobin's Q**

Dependent Variable: TQ				
Method: Panel Least Squares				
Date: 04/23/21 Time: 15:11				
Sample: 2010 2019				
Periods included: 10				
Cross-sections included: 23				
Total panel (balanced) observations: 230				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.158988	0.020164	7.884667	0.0000
LEV	-0.016390	0.002322	-2.752385	0.0064
DPR	-0.001103	0.000676	-0.152761	0.8787
CUR	-0.003433	0.014021	-0.244881	0.8068
R-squared	0.432564	Mean dependent var		0.115678
Adjusted R-squared	0.419222	S.D. dependent var		0.104976
S.E. of regression	0.103936	Akaike info criterion		-1.672853
Sum squared resid	2.441387	Schwarz criterion		-1.613061
Log likelihood	196.3781	Hannan-Quinn criter.		-1.648734
F-statistic	3.535724	Durbin-Watson stat		1.383581
Prob(F-statistic)	0.042599			

Source: E-Views 9.0 Panel Regression Output, 2021

### Interpretation of Regression Analysis

From table 2, it can be seen that the adjusted R<sup>2</sup> (co-efficient of determination) is 41.9%, meaning that the predictors in the model (Leverage, Dividend Payout Ratio and Current Ratio) can only explain the variation of Tobin's Q by only 41.9%. The model cannot explain a variation of 58.1% in Tobin's Q because there are other variables which are responsible for explaining the 58.1% variation which are not currently in the model. Since the Durbin-Watson is 1.383581 which is less than 2 on the autocorrelation region, then, there was no evidence of autocorrelation in the data.

From table 2, the various coefficients are shown with an intercept of 0.159 which shows that if all the three predictors (leverage, dividend payout ratio and current ratio) were to be equated to zero then Tobin's Q will be 0.159. Leverage beta coefficient is;  $\beta_1 = -0.016$  which implies that an increase in one unit/naira of leverage will

result into a decline of Tobin's Q by 0.016. Same thing for an increase in one unit of DPR and CUR, will translate to a decline of Tobin's Q by 0.001 and 0.003 respectively.

The resulting multivariate linear regression model is as follows:

$$TQ = 0.158988 - 0.016390LEV - 0.001103DPR - 0.003433CUR + \mu$$

From the regression result in table 4.3, there is a statistically significance fit of the overall model since the Prob(F-statistic) of 0.042599 is less than the critical value ( $\alpha = 0.05$ ) at 5%. Hence the overall model is fit for forecasting with a confidence level of 95%.

### Decision

Since the P-Value of the test at 0.042599 is less than 0.05, therefore, the alternative hypothesis was accepted which hypothesized that, there is a significant negative relationship between Leverage and Tobin's Q of quoted manufacturing firms in Nigeria at 5% level of significance.

### Test of Hypothesis II

**H<sub>02</sub>:** There is no significant relationship between Board Size and Tobin's Q of quoted manufacturing firms in Nigeria.

**H<sub>2</sub>:** There is significant relationship between Board Size and Tobin's Q of quoted manufacturing firms in Nigeria.

**Table 3: Panel Least Regression Analysis between Board Size and Tobin's Q**

Dependent Variable: TQ				
Method: Panel Least Squares				
Date: 04/23/21 Time: 15:12				
Sample: 2010 2019				
Periods included: 10				
Cross-sections included: 23				
Total panel (balanced) observations: 230				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.116563	0.014167	8.227676	0.0000
BDS	-0.100955	0.005310	-6.179875	0.0000
DPR	-0.007374	0.000687	-0.108009	0.9141
CUR	-0.001995	0.014253	-0.139958	0.8888
R-squared	0.536278	Mean dependent var		0.115678
Adjusted R-squared	0.522992	S.D. dependent var		0.104976
S.E. of regression	0.105656	Akaike info criterion		-1.640026
Sum squared resid	2.522862	Schwarz criterion		-1.580233
Log likelihood	192.6030	Hannan-Quinn criter.		-1.615907
F-statistic	9.020961	Durbin-Watson stat		1.310168
Prob(F-statistic)	0.000872			

Source: E-Views 9.0 Panel Regression Output, 2021

### Interpretation of Multivariate Regression Analysis

From table 3, it can be seen that the adjusted R<sup>2</sup> (coefficient of determination) is 52.3%, meaning that the predictors in the model (Board Size, Dividend Payout Ratio and Current

Ratio) can only explain the variation of Tobin's Q by only 52.3%. The model cannot explain a variation of 47.7% in Tobin's Q because there are other variables which are responsible for explaining the 47.7% variation which are not currently in the model. Since the Durbin-Watson is 1.310168 which is less than 2 on the autocorrelation region, then, there was no evidence for autocorrelation in the data. From table 3, the various coefficients are shown with an intercept of

0.117 which shows that if all the three predictors (board size, dividend payout ratio and current ratio) were to be equated to zero then Tobin's Q will be 0.117. Board size beta coefficient is;  $\beta_1 = -0.101$  which implies that an increase in one board member will result into a decline of Tobin's Q by 0.101. Same thing for an increase in one unit of DPR and CUR, will translate to a decline of Tobin's Q by 0.007 and 0.002 respectively.

The resulting multivariate linear regression model is as follows:

$$TQ = 0.116563 - 0.100955BDS - 0.007374DPR - 0.001995CUR + \mu$$

From the regression result in table 4.5, there is a statistically significance fit of the overall

model since the Prob (F-statistic) of 0.000872 is less than the critical value ( $\alpha = 0.05$ ) at 5%. Hence the overall model is fit for forecasting with a confidence level of 95%.

### Decision

Since the P-Value of the test at 0.000872 is less than 0.05, therefore, the alternative hypothesis was accepted which hypothesized that, there is a significant negative relationship between Board Size and Tobin's Q of quoted manufacturing firms in Nigeria at 5% level of significance.

### Discussion of Findings

The regression results showing the relationship between firm characteristics and financial performance of quoted manufacturing firms in Nigeria were presented in tables 2 to 3. Firm characteristics which formed the independent variable of this study was proxied by leverage and board size, while financial performance which is dependent variable of this study was measured by Tobin's Q.

For the regression results between leverage and Tobin's Q, the coefficients are shown with an intercept of 0.159 which shows that if all the three predictors (leverage, dividend payout ratio and current ratio) were to be equated to zero then Tobin's Q will be 0.159. Leverage beta coefficient is;  $\beta_1 = -0.016$  which implies that an increase in one unit/naira of leverage will result into a decline of Tobin's Q by 0.016. Same thing for an increase in one unit of DPR and CUR, will translate to a decline of Tobin's Q by 0.001 and 0.003 respectively. The findings of this study support the works of Mutende, Mwangi, Njihia and Ochieng (2017), Uwuigbe, Uwuigbe and Okorie (2015), Kaguri (2013) but contradicts the findings of Oyerogba, Memba, Riro (2016), Hamdan and Esra (2015).

From the regression result in table 4.3, there is a statistically significance fit of the overall

model since the Prob (F-statistic) of 0.042599 is less than the critical value ( $\alpha = 0.05$ ) at 5%.

In the case of the relationship between board size and Tobin's Q the adjusted  $R^2$  (co-efficient of determination) is 52.3%, meaning that the predictors in the model (Board Size, Dividend Payout Ratio and Current Ratio) can only explain the variation of Tobin's Q by only 52.3%. The model cannot explain a variation of 47.7% in Tobin's Q because there are other variables which are responsible for explaining the 47.7% variation which are not currently in the model. Since the Durbin-Watson is 1.310168 which is

less than 2 on the autocorrelation region, then, there was no evidence for autocorrelation in the data. From the regression result in table 4.5, there is a statistically significance fit of the overall model since the Prob(F-statistic) of 0.000872 is less than the critical value ( $\alpha = 0.05$ ) at 5%. Hence the overall model is fit for forecasting with a confidence level of 95%. The findings of this study is consistent with the works of Mohammed Ogbeide and Akanji (2016), Aminu, Rihana and Murtala (2015), Inyiama and Chukwuani (2014), but negates the findings of Sin, Tze and Wei (2016), Zahoor, Huma, Bader and Muhammad (2015).

### Conclusion and Recommendations

The conclusion reached in this study is that firm characteristics have a statistically significant relationship with financial performance of quoted manufacturing firms in Nigeria at 5% level of significance.

This study ascertained the relationship between firm characteristics and financial performance of quoted manufacturing firms in Nigeria by adopting certain firm characteristics (such as leverage, and board size) and financial performance indicator (Tobin's Q) over a period of ten (10) years spanning from 2010-2019, while dividend payout ratio and current ratio served as control variables.

The following recommendations are made in line with the findings and conclusion of this study:

1. There is need to use proportionate debt financing in relation to total capital financing in order to reverse the inverse relationship between leverage and Tobin's Q. Therefore, the firms should use debt financing up to a point where any extra debt financing reduces net cost to the firms.
2. In order to reverse the negative relationship between board size and Tobin's Q, this study recommends small and efficient board size, since large boards are wastage of resources and incurrence of avoidable expenses which fleece the company of revenues and supports lavish life styles of directors.

### REFERENCES

- [1] Adelegan, O. J. (2009). Investment, financial factors and cash flow from Nigerian panel data. *Journal of African Development*, 11(1), 77-108.
- [2] Ahmet, O. (2016). Firm characteristics and accounting fraud: A multivariate approach. *Journal of Accounting, Finance and Auditing Studies*, 2(2), 128-144.
- [3] Banchuenvijit, W. (2012). Determinants of firm performance of Vietnam listed companies.

- Unpublished Independent Study*. University of the Thai Chamber of Commerce.
- [4] Bartolacci, F., Zigiotti, E., & Diem, T. H. (2015). Environmental and financial performance in Italian waste management firms. *Management International Conference, Portoroz, Slovenia, 28-30 May, 2015*, 389-401.
- [5] Beck, T., Kunt, A. D., & Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter? *The Journal of Finance*, 60(1).
- [6] Brouwer, P., Kok, J. D. & Fris, P. (2005). Can firm age account for productivity differences? A study into the relationship between productivity and firm age for mature firms. Scientific analysis of entrepreneurship and SMEs. *EIM Business and Policy Research. Unpublished SCALES-paper*.
- [7] Chogii, R. (2009). Corporate governance and firm performance: An empirical test of competing governance theories on companies quoted on the Nairobi Stock Exchange. *Unpublished MBA Project*.
- [8] Coles, J. L., Daniel, N. D., & Naveen, L. (2008) Boards: Does one size fit all? *Journal of Financial Economics*, 87, 329-356.
- [9] Díaz, M. R., & Rodríguez, T. F. (2008). A model of strategic evaluation of a tourism destination based on internal and relational capabilities, *Journal of Travel Research*, 46(4), 368-380.
- [10] Doan, N. P., & Nguyen, J. D. (2011). Firm characteristics, capital structure and operational performance: A Vietnamese study, in *Proc. the APEA 2011 Conference*, Busan, 2011.
- [11] Dogan, M. (2013). Does firm size affect firm profitability? Evidence from Turkey. *Journal of Finance and Accounting*, 4(4), 137-145.
- [12] Doyle, P. (1994). Setting business objectives and measuring performance. *European Management Journal*, 12 (2), 123-132.
- [13] Ebaid, E. (2009). Impact of capital structure choice on firm's performance: Empirical evidence from Egypt. *The Journal of Risk Finance*, 10(5), 477-487.
- [14] Ezechukwu, B. O., & Amahalu, N. N. (2017). Effect of firm characteristics on financial performance of quoted deposit money banks in Nigeria. *Book of Readings: Contemporary Issues in Business Management: A Multidisciplinary Approach*, 1(1), 387-409.
- [15] Galbraith, C., & Schendlel, D. (2003). An empirical analysis of strategy types. *Strategic Management Journal*, 4, 153-173.
- [16] Guest, P. M. (2008). The determinants of board size and composition: Evidence from the UK, *Journal of Corporate Finance*, 14, 51-72.
- [17] Hamdan, A., & Esra, A. (2015). The impact of corporate governance on firm performance: Evidence from Bahrain Stock Exchange. *European Journal of Business and Innovation Research*, 3(5), 25-48.
- [18] Harris, M., & Raviv, A. (1991). Capital structure and the informational role of debt. *The Journal of Finance*, 45(2), 321-349.
- [19] Hung, Y. C, Albert, C. C, & Eddie, C. H (2002). Capital structure and profitability of the property and construction sectors in Hong Kong, *Journal of Property, Investment and Finance*, 20(6), 1463-578.
- [20] Inyama, O. I., & Chukwuani V. N. (2014). Empirical Investigation of the Interactions between firm size and firm's financial performance: A study based on brewery sector of Nigeria. *Journal of Finance and Bank Management*, 2(3 & 4), 53-68.
- [21] Janthorn, S., & Navee, C. (2015). Investigation of Thai manufacturing public firms' characteristics and financial strategies towards financial performance's improvement. *Journal of Economics, Business and Management*, 3(3), 331-337.
- [22] Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems, *Journal of Finance*, 48, 831-880.
- [23] Jermias. J. (2008). The relative influence of competitive intensity and business strategy on the relationship between financial leverage and performance" *The British Accounting Review*. 40, 71-86.
- [24] Kaguri, A. W. (2013). *Relationship between firm characteristics and financial performance of life insurance companies in Kenya*. A research project submitted in partial fulfillment of the requirements for the award of Degree in Master of science in Finance, University of Nairobi. 1-67.
- [25] Kogan, L. & Tian, M. (2012). Firm characteristics and empirical factor models: A

- data-mining experiment. *International Finance Discussion papers*, 1070.
- [26] Linck, J., Netter, J., & Yang, T. (2008). The determinants of board structure, *Journal of Financial Economics*, 87, 308-328.
- [27] Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *Journal Business Lawyer*, 48, 59-77.
- [28] Madan, K. (2007). An analysis of debt-equity structure of leading hotel chains in India, *International Journal of Hospitality Management*, 19(5), 397 - 414.
- [29] Mahfoudh, I. O. (2013). Effect of selected firm characteristics on financial performance of firms listed in the agricultural sector at the Nairobi securities exchange. A research project submitted for the award of the Degree of Master of Science in Finance, University of Nairobi, 1-72.
- [30] McKnight, P. J. & Weir, C. (2008). Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis. *The Quarterly Review of Economics and Finance*, 49, 139-158.
- [31] Mirza, S. A & Javed, A, (2013). Determinants of financial performance of a firm: Case of Pakistani stock market. *Journal of Economics and International Finance*, 5(2), 43-52.
- [32] Modigliani, F., & Miller, M. (1963). Corporate income taxes and the cost of capital: A correction, *American Economic Review*, 53, 443-53.
- [33] Naser, K., & Mokhtar, M. Z. (2004). Firm Performance, Macro- economic Variables and Firm
- [34] Nash, M. (2003). *Managing organizational performance*. San Franscisco, CA: Jossey-Bass Publishers.
- [35] Neely, A. (2011). *Business performance measurement: Unifying theory and integrating practice* (2nd ed.). Cambridge University Press.
- [36] Nunes, P. J. M., Serrasqueiro, Z. M., & Sequeira, T. N. (2009). Profitability in Portuguese service industries: a panel data approach. *The Service Industries Journal*, 29 (5), 693-707.
- [37] Obradovich, J. & Gill, A. (2013). The impact of corporate governance and financial leverage on the value of American firms. *Faculty Publications and Presentations. Paper 25*. [http://digitalcommons.liberty.edu/bus\\_i\\_fac\\_pubs/25](http://digitalcommons.liberty.edu/bus_i_fac_pubs/25)
- [38] Ogbeide, S., & Akanji, B. (2016). Executive remuneration and the financial performance of quoted firms: The Nigerian Experience, 229-242.
- [39] Ojo, S. A. (2012). The effect of financial leverage on corporate performance of some selected companies in Nigeria, *Canadian Social Science*, 8(1), 85-91.
- [40] Okpara, I. I. (2014). *Impact of financial structure on the performance of quoted firms in Nigeria*. An M. Sc. Dissertation presented to the Faculty of Business Administration, University of Nigeria, Enugu Campus, 1-141.
- [41] Ondiek, B. (2010). Relationship between capital structure and financial performance of listed firms at Nairobi Securities Exchange. *Unpublished MBA project*.
- [42] Oyerogba, E. O., Memba, F., Riro, G. K. (2016). Impact of board size and firm's characteristics on the profitability of listed companies in Nigeria. *Research Journal of Finance and Accounting*, 7(4), 143-151.
- [43] Raza, M. W., & Mohsin, H. M. (2011). Financial liberalization and macroeconomic performance, empirical evidence from selected Asian countries. *The Journal of Finance*, XXXII (2), 371-387.
- [44] Robinson, R. B. Jr. (2002). The importance of "outsiders" in small firm strategic planning. *Academy of Management Journal*, 25(1), 80-93.
- [45] Sauaia, A. C & Castro J. F, (2001). *Is The Tobin's Q a Good Indicator of A Company's Performance?* Paper presented at the Association for Business Simulation and Experiential Learning, Pensacola, FL Volume 30.
- [46] Sin, H. N., Boon, H. T., Tze, S. O., Wei, N. S. (2016). The relationship between board characteristics and firm financial performance in Malaysia. *Corporate Ownership & Control*, 14(1), Fall, 259-268.
- [47] Subrahmanyam, A. & Titman, S. (2001). Feedback from stock prices to cash flows. *Journal of Finance*, 56 (18), 2389-2413.
- [48] Suntraruk, P. (2013). An empirical analysis on the association between corporate governance

- rating and firms' characteristics: evidence from MAI Thailand. *International Journal of Academic Research in Business and Social Sciences*, 3(12), 732-734.
- [49] Topal, Y., & Doğan, M. (2014). Impact of board size on financial performance: The case of BIST manufacturing industry. *International Journal of Business Management and Economic Research (IJBMER)*, 5(4), 74-79.
- [50] Uwuigbe, E., Uwuigbe, O. R. & Okorie, B. (2015). Assessment of the effects of firms' characteristics on earnings management of listed firms in Nigeria. *Asian Economic and Financial Review*, 5(2):218-228.
- [51] Vogt, S. (1997). Cash flow and capital spending: Evidence from capital expenditure announcements. *Journal of financial management*, 26(2) 44 – 57.
- [52] William, A. P. (2015). Price, Book Value & Tobin's Q: Which One is better for Measuring Corporate Governance? *European Journal of Business & Management*, Vol. 7, No. 27.
- [53] Wintoki, J. (2007) Endogeneity and the dynamics of corporate governance, *Working paper*, University of Georgia.
- [54] Zahoor, H. J., Huma, R., Bader, A., Muhammad, F. N. (2015). Effect of financial leverage on performance of the firms: Empirical evidence from Pakistan. *SPOUDAI Journal of Economics and Business*, 65(1-2), 87-95.
- [55] Zou, S. & Stan, S. (1998). The determinants of export performance: A review of the empirical between 1987 and 1997. *Journal of Marketing Review*, 15(5), 88-101.

