

The Mediating Effect of Profitability on the Relationship between Firm Structural Characteristics and Value of Nigerian Listed Agriculture Companies

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Abstract

The paper analyzes the mediating effect of profitability on the relationship between firm structural characteristics and value listed agriculture companies in Nigerian. The sample size consists of six agriculture companies for a period of 12 years (2008-2018). Base on the data, the analysis was done through Partial Least Square (PLS) analysis with the Sobel Test approach to testing the mediation between the variables under study. The result shows that profitability mediates the effect of firm structural characteristics namely; leverage, firm size, firm age, and board size on firm value. On this note, this study recommends that it's important for companies to give information on each account on financial statements which is a signal to be informed to investors and prospective investors.

Keywords: Firm structural characteristics, profitability, the value of Nigerian agriculture firms

INTRODUCTION

Firm value serves as a signal to investors, shareholders and another user of the financial statement, particularly in the area of decision making. The firm value represents a very important because high company value will be followed by high shareholder wealth (Gapenski, 1996). The higher the share prices of the firm, the higher the value. Managers are required to make decisions that consider all stakeholders in maximizing the company value in the long term because the manager will be assessed for his performance based on the success of achieving the goal (Jensen, 2001).

Given the foregoing, the problem here is that in the real world, a change in the dividend policy is often followed by a change in the market value of stocks but in a developing economic the reverse may be the case subject to so many factors. Iyoha (2012) grouped firm characteristics into controllable attributes, partially controllable attributes and uncontrollable attributes. The structural characteristics are those attributes that have to do with a firm's structure which is likely to be unique to the firm. Firm structural characteristics represent a key element of firm characteristics; others are performance characteristics and firm ownership characteristics (Chen & Jaggi, 2007). Structural characteristics such as financial leverage which may affect the value of the firm and this may change the investor's decisions when planning to invest in the business.

Financial leverage or gearing ratio refers to the percentage of debt financing in the capital structure of a firm (Okwoli, 2009). It is unlikely that the rate of financial leverage of all the agriculture companies will be the same and even there are the same because they are facing the same climatic problem (e.g., weather conditions), the level might differ from year to year because of different locations and crops. The level of financial leverage in the firm will place a judgment on the firm.

Another important structural characteristic is the size of the firm. This will also have implications on how the investors, shareholders and other users of financial statements will feel concerning the firm. The size of the firm is considered capable of changing the firm value because the larger the size or scale of the company it will be easier the company also obtains sources of funding both internal and external (Monoarfa, 2018). Decisions concerning the firm size will result in the share price of the company (Weston & Copeland, 2010). In not share, firm size can be seen as a comparison of the size or magnitude of an object in a company. If this understanding is linked to a company or organization, then the company size can be defined as a comparison of the size or size of the business entities or corporation. The size of a company is a scale that can be classified as a small company by various means, including total assets, log size, stock market value, and so on. Basically, the

company size is only divided into categories of a large company, medium-sized company, and small company. The determination of this company size is based on the total assets of the company (Machfoedz, 1994).

Companies with large assets show that the company has reached the maturity stage wherein this stage, the company cash flow has been positive and is considered to have a good prospect in a relatively long period of time. In addition, it also reflects that the company is relatively more stable and more able to generate profit compared to companies with small total assets (Indriani, 2005). Usually, large companies have large assets or value. Theoretically, larger companies have greater certainty than small companies have lower certainty regarding their future prospects. It can help investors predicting the risks that may occur if investing in the company (Yolana & Martani, 2005).

Cheng, Liu and Chien (2001) concluded that the size of the individual company affects the value of the company listed on the Chinese stock exchange. Paranita (2007) and Sujoko and Soebiantoro (2007) concluded that company size has a positive effect on company value. Obradovich and Gill (2013) concluded that company size has a positive and significant effect on the value of companies listed on the New York Stock Exchange. Purnomosidi *et al.* (2014) concluded that company size has a positive effect on the value of real estate companies in Indonesia Stock Exchange. Siahaan *et al.* (2014) showed that company size positively affects the value of manufacturing companies listed on the Indonesia Stock Exchange. Different results are shown by Gill and Mathur (2011) to prove that larger company size (a large number of directors) have a negative impact on the value of manufacturing companies in Canada. Machfoeds and Hamonangan (2006) concluded that company size does not show a non-linear relation to company value.

Larger firms are able to afford a well-structured internal control system or to engage the services of one of the top auditing firms for the audit of its financial statement which is expected to improve the quality of their financial report. On the other hand, a large firm can also be motivated to engage in earnings management in order to maintain a certain level of profile (Waweru & Riro, 2013) this will, in turn, affect the quality of its financial report.

Finally, the age of the firm is also likely to affect firm value. It can be defined as the number of years the company has been engaged in business legally (Osunsan, Nowak, Mabonga, Pule, Kibirige & Baliruro, 2015). It indicates the time that elapsed since the company's incorporated (Bansal & Sharma, 2016). Some firms over the years have a reputation because they have overcome some challenges over time and they may have discovered what is affected their business and learn how to do things better than before which younger firms may not have.

Salhu and Bhatia (1993) stated that aged companies outperform younger ones because aged companies have the early mover advantage and may possess specific competencies and skills which younger companies may not have developed because they are new in the operation. Adedoyin (2011) concluded that younger firms are more vulnerable to high risk of failure and may incur losses in their early years of operations compared to older firms, meaning that age actually help firms become more effective and efficient in operations.

Some years back before Nigeria discover the oil, the agricultural sector serves as the most important source of Nigerian economy growth. The sector was critically important to the country's economy and to the livelihoods of most of the people, hardly you will see a family without farmers. Agriculture was the most prominent sector where you see coca from Western states, groundnut pyramids from Northern states and Rubber is grown in Edo, Delta, Ondo, Ogun, Abia, Anambra, Akwa Ibom, Cross River, Rivers, Ebonyi, and Bayelsa States where the amount of rainfall is between 1,800 MM and 2,000 MM per annum (Aigbekaen, Imarhiagbe & Omokhafa, 2000). All this happened before discovering oil in the country and before independence which provided most of the much needed for a foreign exchange through exports. The average Nigerian farmer faces a number of challenges ranging from resource problems such as land, water, labor and management, availability of farm

capital in terms of physical, mechanical, chemical, biological, and financial bottlenecks. Also, there exists the problem of government inefficiency (Ogbebor, 2013).

Government policies in regard to agricultural have been inconsistent, uncoordinated, and ad hoc among others. Such agricultural policies have limited the full realization of the sector's potential. The agricultural sector of Nigeria is as important as the oil and gas sector is today because it still employs about 70% of the general population in the small, medium, and large scale levels, which helps to boost the economy (Ogbebor, 2013). Agriculture plays an important role in Nigeria's economic development; it contributed to the Gross Domestic Product (GDP) growth in a consistent manner. The sector grew by 4.88% in the third quarter of 2016, and recorded 13% in the previous years, suggesting immense unrealized potentials (MB & NP, 2017). National Bureau of Statistics (2019) showed that agriculture contributed 26.15 percent to total GDP in real terms in quarter 4, grew by 2.46 percent in 2018 compared to 20.85 percent in 2017.

Investors see this as an opportunity to invest in the sector and to a very large extent, it will help to improve the foreign exchange value by way of increasing the amount of export from the sector. The growth in the value of the agricultural sector not only increases in what shareholders take home as a result of their capital but ultimately leads towards the overall prosperity of Nigeria's economic growth. As Nigeria emerges among the best performing stock in the world, the value of firms becomes a major concern to the government and stakeholders at large (NSE, 2017). This is because an increase in firm value leads to an increase in the GDP of the country, which will bring about economic growth in general. The great performance in the Agricultural sector can be attributed to the government's agencies that supported the sector and local and foreign investors that invested in the sector. Stakeholders are therefore becoming optimistic in the future of this sector. There is an urgent need for studies that will look into the effect of firm structural characteristics on firm value mediating by profitability. However, although all these the agricultural sector has received little attention particularly in developing economies like Nigeria. Since the sector plays an important role in economic growth, its stability is of paramount importance to the stakeholders.

Several studies conducted in developing, as well as developing countries, documented the mix results. Most of the empirical studies outside Nigeria like the study of Thavikulwat (2004), Ulil, Bambang and Djumahir (2013), Sweetey and Kaur (2014), Davila (2014), Almumani (2014), Alghusin (2015) Suparno and Pitoyo (2016), Purwohandoko (2017) and Monoarfa (2018) investigates the impact of firm characteristics on firm value. Shehu (2009), Ibrahim and Hussaini (2015), Mohammed (2015), Abdullahi (2016) conducted their studies in Nigeria - those studies concentrated on other sectors like building materials, oil and gas, manufacturing and food and beverages firms. Also, none of the aforementioned studies examines the impact of structural characteristics on the value of firms of listed agriculture companies in Nigeria.

The result of an empirical study on structural characteristics to firm value still gives a gap to be reviewed and to cover the gap, it is necessary to mediate the variable with profitability since prior studies reported a mix results. Investors used the level of profit generated by the company as one important indicator to stakeholders of the company expecting the returns in the nearest future from their investment and companies that are able to increase their profits will have the opportunity to expand the business. Expansion is an active action to expand and enlarge the company. The companies with high profitability levels give a signal to a shareholder that the companies are generating high returns and this will encourage them to invest their resources into the business (Olanisebe & Adepoju, 2019).

Companies that have larger sizes have an effect on increasing the profitability of the company. Chowdhury, Anup and Chowdhury (2010), Rizqia, *et al.* (2013), Hidayah (2014) and Shuaibu, Ali and Amin (2019) concluded that company attributes have a significant impact on firm value. High profitability reflects the ability of companies to generate high profits for stakeholders. The greater the profits derived the greater the company value. With a high profitability ratio, a company will attract investors to invest in the company.

Based on this, there is a gap for the re-examination of the effect of structural characteristics on the firm value with profitability as a mediation variable. The gaps that the study has identified and which it hopes to fill include; sector gap, period gap and variable segment gap of structural characteristics. This research is expected to be one of the empirical study materials regarding profitability as a mediator influencing structural characteristics on firm value. In light of the foregoing, the present study raised the following questions:

- i. How do firm structural characteristics (firm size, firm age and financial leverage) impact on firm value of listed agricultural companies in Nigeria?
- ii. What role does profitability play on the relationship between firm structural characteristics and firm value of listed agricultural companies in Nigeria?

The remainder of the study is organized as follows: Section two (2) provides literature on structural characteristics and firm value and previous researches concluded about these concepts. Section three (3) presents the methodology of the study while section four presents results and discussions and lastly, section five based on conclusions and recommendations.

LITERATURE REVIEW

Several studies have been conducted on the impact of firm characteristics on firm value in Nigeria and beyond. The following empirical evidence on the subject matter was reviewed.

Financial Leverage and Firm Value

Company financial leverage is the degree to which a company uses fixed-income securities, such as debt and preferred equity (Kaguri, 2013). It refers to the ratio of debt to total capital of a company (Abdullahi, 2016). It has been established in finance literature that company financial leverage influence a company's investment strategies, and hence its value. Debt has a function that resolves conflicts between managers and shareholders in reducing management discretion to consume excessive perquisites, hence enhancing the firm's value (Jensen & Meckling, 1976). It is often used by management to signal to the market that the managers have committed themselves to generate a sufficiently high level of cash flow for repayment purposes (Jensen, 1986).

A study conducted by Adeyemi and Oboh (2011) on the perceived relationship between corporate capital structure and firm value in Nigeria. The sample size consists of 90 firms from Nigeria and the results show that financial leverage affects firm value. Similarly, Chambers, Sezgin and Karaaslan (2013) investigated the effect of capital structure on stock values of companies listed on the Istanbul Stock Exchange (ISE). The study used three periods: the whole period from 1994 to 2010, the sub-period from 1994 to 2002 and another sub-period from 2003 to 2010. Panel regression analysis was used and the results show that total debt to market value (TD/MV) and beta ratio were found to have a statistically significant effect on both nominal and real stock values in all the three periods.

Mohammed (2015) examines the impact of firm characteristics on the firm value of listed healthcare firms in Nigeria. The study used panel data regression to analyze the secondary data extracted from the annual reports and accounts of the ten firms for the period 2008 to 2015. The result shows that financial leverage has a significant negative effect on firm value implying that high leverage does not lead to an increase in the value of the firm. Adedoyin and Mohammed and Usman (2016) reported the same result.

In Kenya, Ayako and Wamalwa (2015) examined the determinants of firm value of 46 commercial banks listed at the Nairobi Securities Exchange (NSE) for eleven years (2002-2012) using secondary panel data. Data were analyzed by means of a random effect regression model. The estimation results showed a positive relationship between leverage and firm value. In the same vein, Ramadan (2015) investigates the impact of leverage on the firms' value utilizing an unbalanced pooled Ordinary Least Square (OLS) cross-sectional time-series panel data regression approach of all listed companies in Amman Stock Exchange (ASE) during the period 2000-2013.

The result shows that the financial leverage affects the value of the firm listed on the Jordanian Stock Exchange for the period.

Adenugba, Ige and Kesinro's (2016) studies determine the relationship between financial leverage and firms' value of five companies listed on the Nigerian Stock Exchange (NSE) for a period of 6 years (2007-2012). Data were sourced from annual reports of selected firms. The Ordinary Least Square (OLS) statistical technique was used for data analysis and hypothesis testing. The study revealed that there is a significant relationship between financial leverage and firm value. Finally, Ibrahim's (2017) study the impact of capital structure on Firm Value in Nigerian Listed Manufacturing Companies in Nigeria for the period from (2012–2016). Data was collected from the Nigerian Stock Exchange (NSE) factbook. The conditional probability model analyses are estimated using probit. The results show that leverage is negatively significantly related to firm value, while Gharaibeh and Abdul-Qader (2017) concluded that leverage has an insignificant negative relationship with the value of the firm.

Firm Size and Firm Value

Firm size refers to the speed and extends of growth that is ideal for a specific company (Abdullahi, 2016). Firm size is a scale that can be classified as a small company by various means, including total assets, log size, stock market value, and so on. Basically, company size is divided into categories of a large company, medium-sized company, and small company. One of the benchmarks that show the company size is the size of the assets of the company. Company with large assets show that the company has reached the maturity stage wherein this stage the company cash flow has been positive and is considered to have a good prospect in a relatively long period of time, but it also reflects that the company is relatively more stable and more able to generate profit compared to company with a small total of assets. The larger a firm is, the greater the influence it has on its stakeholders.

Hidayah (2014) study the effect of company characteristics on firm value of listed property and real estate companies in Indonesia Stock Exchange (ISE). The sample of the study consists of 30 property and real estate companies from 2010 to 2012. The result of the study shows that firm size affect the Firm Value of listed property and real estate companies in Indonesia. In the same with this, Mohammed (2015) examines the impact of firm characteristics on the firm value of listed healthcare firms in Nigeria. The study used panel data regression to analyze the data extracted from the annual reports and accounts of the ten companies for the period of eight years (2008-2015). The study found that firm size has a significant positive impact on the firm value of listed healthcare firms in Nigeria while Gharaibeh and Abdul-Qader (2017) and Awan Lodhi and Hussain (2018), who examined the determinants of firm value concluded that firm size does not affect the stock prices.

Another conducted in Colombo by Abdul Rauf (2015) examined factors that influence share prices from listed banks in Colombo Stock Exchange over the period 2005-2014. The study employed regression and correlation analyses and the found a positive correlation between the firm size and share price. In the same vein, Ramadan (2016) found that firm size has a significant impact on the value. Handoko (2016) study the influence of firm characteristics on capital structure and firm value of public insurance companies listed on the Indonesia Stock Exchange from the sample of 10 insurance companies for a period of years (2008-2013) using panel data analysis method. The result indicates that firm size affects the company's value. Similarly, Gharaibeh and Abdul-Qader (2017) concluded that the size of the firm has a positive but insignificant affect on firm value.

Firm Age and Firm Value

Firm age is defined as the number of years the firm has been engaged in operation legally (Osunsan *et al.*, 2015). Adedoyin (2011) conducted a study on share price determinants and corporate characteristics in Nigeria and the result shows that age has a significant impact on share prices. Kaguri (2013) provides evidence to show that age has a significant negative relationship with the financial performance of life insurance companies in Kenya, hence affect the firm value.

Ramadan (2016) investigates the main determinants of the industrial firms' value in Jordan. The study utilized panel data using 77 companies listed on the Amman Stock Exchange (ASE) for the period 2000-2014. The study showed that firm age has a statistically significant impact on the value of the period. Furthermore, Mahmoud (2017) finds that firm age has a significant positive impact on the firm value of listed manufacturing companies in Nigeria. This is in line with Adedoyin (2011), Osunsan, *et al.* (2015) and Ramadan (2016).

Board Size and Firm Value

Board size is defined as the total number of directors on the board at the end of the financial year, consists of non-executive directors and executive directors (El-Faotouri, 2012). Jensen (1993) argues that a board with more than seven to eight members is not likely to be effective and is more likely to be controlled by the Chief Executive Officer (CEO) of the company. Yermack (1996) concluded that as board size increase in numbers, is slower the decision making processing. This is because a large board creates less participation, is less organized, and is less able to reach an agreement and therefore monitoring becomes difficult and larger boards are often less flexible and less efficient due to higher coordination costs and less effective communication (Ibadin, Peter & Ibadin, 2012).

Muhammad (2009) examines the impact of managerial ownership and board characteristics on the value of listed oil companies in Nigeria for a period of ten years (1999-2008). The study used GLS regression and GMM for the analysis, the study finds among other things that board size has a significant negative impact on firm value. Similarly, De-Toledo (2010) assesses the effect of quality corporate governance on the market value of publicly traded firms for a period of two years (2006 and 2007). The study used multiple regressions analysis and the result shows that board size has a significant positive impact on firm value.

Suparno and Pitoyo's (2016) study determinant factor of a firm's value on manufacturing company in Indonesian Stock Exchange. The study uses a quantitative approach, with a sample of 110 companies listed on the Indonesian Stock Exchange (BEI) for a period of five years (2009-2014). The data analysis was done using multiple linear regressions. The result reveals that board size influences the value of the firm.

Profitability and Firm Value

Profitability is the company's ability to generate profit. Profitability reflects the advantages of financial investment. Myers and Majluf (1984) argued that financial managers who use pecking order theory with retained earnings as the first option in meeting financing and debt needs as a second option and issuing shares as a third option will always increase profitability to improve earnings. Profitability serves as a benchmark in determining the alternative financing, but the way to assess the company's profitability is diverse and highly dependent on profits and assets or capital that will be compared from profits derived from operations or net profit after tax with own capital.

Li-Ju and Shun (2011) studied the impact of profitability on the firm value of listed firms Taiwanese Stock Exchange (TSE) for five years (2005-2009). The result shows that profitability has a significant positive impact on firm value. This indicates that the greater the profitability, the higher the value of the firm. Awan Lodhi and Hussain (2018) examined the determinants of a firm value case study of the chemical industries of Pakistan. The result showed that profitability does not affect the stock prices.

Sucuahi and Cambarian (2016) investigated the influence of profitability to the firm value of diversified companies in the Philippines. The sampled size consists of 86 companies in the Philippines by gathering and analyzing annual financial reports for 2014 only using Multiple Regression analysis. The multiple regressions reveal that only profitability shows a significant positive impact on the firm's value. Suparno and Pitoyo (2016) also concluded that Profitability affects the value of the Firm.

Gharaibeh and Abdul-Qader (2017) study investigated the determinants of firm value from 40 companies listed on the Saudi Stock Exchange for a period of ten years (2005-2014). The study uses descriptive statistics correlation and multiple regression analysis. The result showed that profitability has a statistically significant impact on firm value.

METHODOLOGY

This section explains the research design, study population, sample size, sources of data, study variables and their measurement as well as model specification and statistical techniques employed for data analysis. The study uses the ex-post facto research design because it utilizes the annual report and accounts of the sampled firms. Firm structural characteristics were explored, with financial leverage, firm size firm age and board size as the explanatory variables, firm value as the dependent variable while profitability represented the mediating variable. The population of the study consists of all listed agriculture companies in the Nigerian Stoke Exchange as of 31st December 2018. The study covers a period of twelve years (2009-2018). The population of the study includes Ellah Lakes Plc. FTN Cocoa Processors Plc, Livestock Feeds Plc, Okomu Oil Palm Plc. and Okomu Oil Palm Plc. However, a saturated sampling technique was adopted because all members of the population were used as the sample size (Sugiyono, 2006).

Study Variables and their Measurements

This study consists of the dependent, explanatory and mediating variables. Firm value is the dependent variable proxy by share price while firm structural characteristics proxy by financial leverage, firm size and firm age using board size as a control variable. Furthermore, the mediating variable is profitability proxy by return on assets. The firm's value in this study is proxy by share price measured by price-to-book value (PBV) ratio as it relates to the growth of their own capital which compares market value to its book value. In this study, the price-to-book value (PBV) ratio is calculated by Stock Price per Share sheet divided by Book Value per stock sheet as adopted by Suparno and Pitoyo (2016), Gharaibeh and Abdul-Qader (2017), Awan, Lodhi and Hussain (2018) and Monoarfa (2018). The explanatory variables on the other hand, are presented by financial leverage (LEV) calculated by dividing total debts to assets as used in the studies of Shehu and Ahmad (2013), Ahmed and Ibrahim (2015), Olowokure, Tanko and Nyor (2016) and Shuaibu, Ali, Amin (2019). Firm size (FSIZE) is measured by the natural logarithm of company total assets as used by Babalola (2013), Gharaibeh and Abdul-Qader (2017), Mohammed (2017), Monoarfa (2018) and Shuaibu, Ali, Amin (2019). Firm age (FAGE) is measured as the year since the company incorporated (Mgeni & Nayak, 2016; Olowokure, Tanko & Nyor 2016 and Olanisebe, Dandago, Ado & Hussaini, 2019). Board size (BZ) is measured as the number of board members at the end of the financial year (Mgeni & Nayak, 2016; Olowokure, Tanko & Nyor, 2016; and Suparno & Pitoyo, 2016). The mediating variable is Profitability (ROA) measured by return on assets (profit before interest and taxes divided by total assets) as measured in the studies of Suparno and Pitoyo (2016), Awan, Lodhi and Hussain (2018), Monoarfa (2018) and Olanisebe, Dandago, Ado and Hussaini (2019).

Method of Data Analysis and Conceptual Model

In this study, Smart Partial Least Square (Smart PLS) structural equation model was used for the analysis of the data collected using the PLS-SEM techniques. These are the analysis of the measurement model and the structural model. SEM is used to find the simultaneous relationship between the variables of the study. SEM technique allows researchers to examine a series of relationships simultaneously. This study tested the influence of leverage, firm Size, firm age, and board size on firm Value through profitability as a mediating variable using Partial Least Square (PLS).

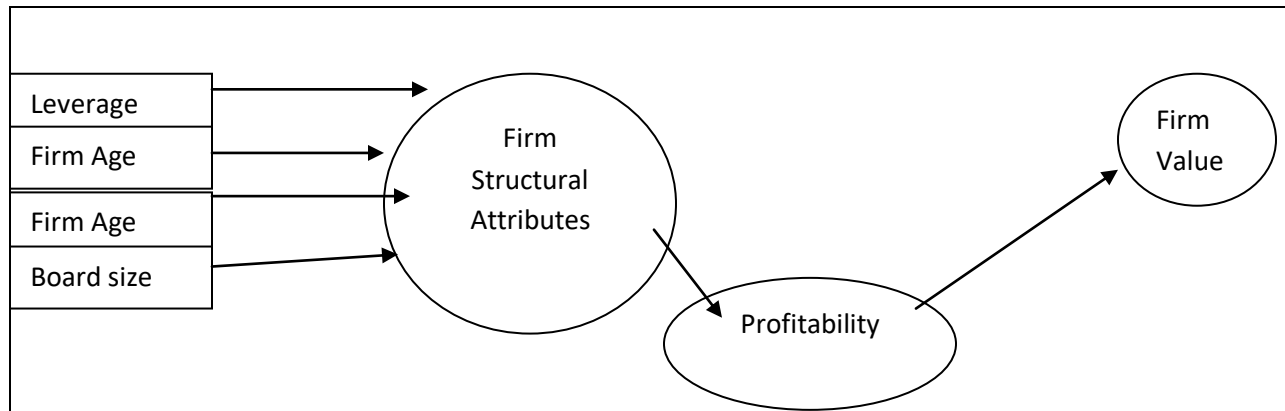


Figure 1: Conceptual Model

FINDINGS AND DISCUSSIONS

Testing of Structural Model or Inner Model

Table 1: Effect of Leverage on Firm Value through Profitability

Variables Relationship	Coefficient	P-value	Keterangan
Leverage (X1) -----> Profitability (Y1)	-0.216	-0.000	Significant
Profitability (Y1) -----> Firm Value (Y2)	0.342	0.002	Significant
Leverage (X1) -----> Profitability (Y1) ----> Firm Value (Y2)	-0.016	0.004	Significant

Table 2: Effect of Firm Size on Firm Value through Profitability

Firm Size (X2) -----> Profitability (Y1)	0.357	0.000	Significant
Profitability (Y1) -----> Firm Value (Y2)	0.342	0.002	Significant
Firm Size (X2) ----> Profitability (Y1) ----> Firm Value (Y2)	0.176	0.001	Significant

Table 3: Effect of Firm Age on Firm Value through Profitability

Firm Age (X3) -----> Profitability (Y1)	0.364	0.000	Significant
Profitability (Y1) -----> Firm Value (Y2)	0.342	0.005	Significant
Firm Age (X3) ----> Profitability (Y1) ----> Firm Value (Y2)	0.146	0.004	Significant

Table 4: Effect of Board Size on Firm Value through Profitability

Board Size (X4) -----> Profitability (Y1)	-0.416	0.000	Significant
Profitability (Y1) -----> Firm Value (Y2)	0.342	0.003	Significant
Board Size(X4) ----> Profitability (Y1) ----> Firm Value (Y2)	-0.139	0.005	Significant

Source: Generated from SEM result

Graphically presented as follows:

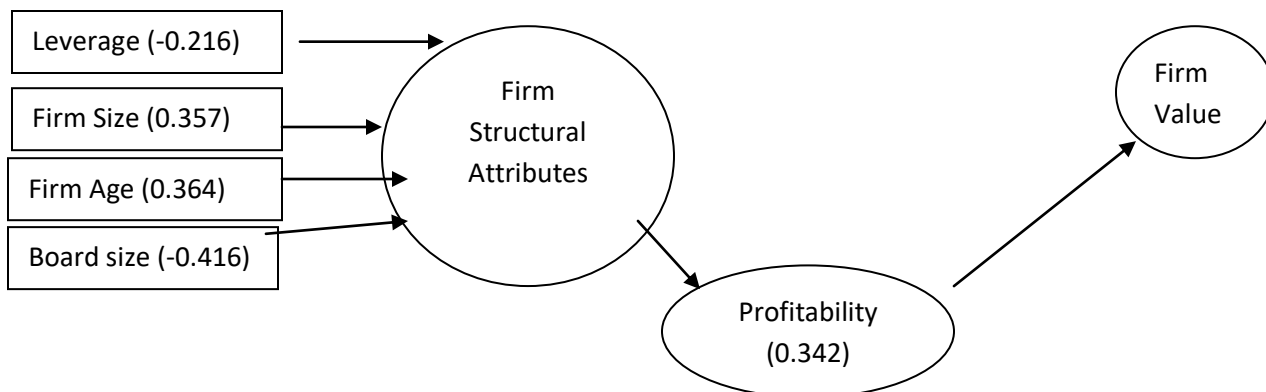


Figure 2: Coefficient of PLS Path

Effect of Leverage on Firm Value through Profitability

Mediation of profitability on the leverage on firm value, Sobel Test coefficient is -0.016 with p-value 0.004. Because p-value <0.05, the result indicates that leverage has a significant negative on firm value through the mediating variable profitability. The negative coefficient showed the relation in opposite directions meaning that as much as listed agriculture companies in Nigeria increase their debts to assets, it will lower profitability indicates lower firm value. This is in line with agency theory, which states that debt decrease the agency cost between shareholders and managers.

This phenomenon was shown in the implication of asymmetric information signaling model which states that different information level between insider/management and outsider/financier with an assumption that the management has more complete information than the financiers, enabling insiders to act as giver of information on value of firm for outsiders (Suhadak, Siregar, & Dzulkirom, 2014). The result is in line with Adeyemi and Oboh (2011), Ayako and Wamalwa (2015), Mohammed (2015), Ramadan (2015), Ige and Kesinro (2016) and Ibrahim (2017) but contradict the results of Gharaibeh and Abdul-Qader (2017), concluded that leverage has insignificant impact on value of the firm.

Firm Size and Firm Value

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Another conducted in Colombo by Abdul Rauf (2015) examined factors that influence share prices from listed banks in Colombo Stock Exchange over the period 2005-2014. The study employed regression and correlation analyses and the found a positive correlation between the firm size and share price. In the same vein, Ramadan (2016) found that firm size has a significant impact on the value. Handoko (2016) study the influence of firm characteristics on capital structure and firm value of public insurance companies listed on the Indonesia Stock Exchange from the sample of 10 insurance companies for a period of years (2008-2013) using panel data analysis method. The result indicates that firm size affects the company's value. Similarly, Gharaibeh and Abdul-Qader (2017) concluded that the size of the firm has a positive but insignificant affect on firm value.

Table 2: Effect of Firm Size on Firm Value through Profitability

Based on the results in Table 1, the mediation of profitability on the influence of firm size on the firm value of the company, Sobel Test coefficient is 0.176 with p-value 0.001. Because of p-value <0.05, there was a

significant influence between the firm size and firm value through the mediation of profitability. The positive coefficient showed unidirectional relation. This indicates that the larger the size of the firm, the higher the mediation of profitability, which impacted the higher value of listed agriculture in Nigeria. Based on agency theory, in a company, there should be a separation between the owner and principal and management as an agent. The purpose of management is maximizing the value of stockholders (Jensen and Meckling, 1976). This means the bigger the size of the company, the bigger the opportunity of a company to maximize its value. This is also in accordance with previous empirical studies. This finding is in line with studies of Nurhasanah (2012), Hidayah (2014), Mohammed (2015), Ramadan (2016) and Handoko (2016), who also report significant results and contrary to Gharaibeh and Abdul-Qader (2017) and Awan Lodhi and Hussain (2018), who concluded that firm size does not affect the stock prices.

Table 3: Effect of Firm Age on Firm Value through Profitability

Mediation of profitability on the Influence of firm age on firm value, Sobel Test coefficient is 0.146 with p-value 0.004. Because p-value <0.05, this indicates that firm age has a significant positive impact on firm value through the mediation of profitability. This means that agriculture companies that are listed for a long time in the Nigerian Stock Exchange have a higher value that relatively recently listed ones. Therefore, an increase in firm age increases the value of listed agriculture companies in Nigeria significantly. The finding is in line with the assumption of resource dependence theory, which states that older firms have more experience and easier access to resources since older firms can benefit from accumulated knowledge in all crucial aspects of the business. The finding also in line with the results of Adedoyin (2011), Ramadan (2016) and Mahmoud (2017), concluded that firm age has a significant positive impact on firm value.

Table 4: Effect of Board Size on Firm Value through Profitability

Mediation of profitability on the Influence of board size on firm value, Sobel Test coefficient is -0.139 with p-value 0.004. Because of p-value <0.05, there was a significant negative influence between board size on firm value through the mediation of profitability. The negative coefficient here indicates that the increase in the size of the board to a significant decrease in listed agriculture companies in Nigeria hence affect the firm value. The higher the board size, the lower the mediation of profitability, impacting lower in firm value of listed agriculture companies in Nigeria. This is in line with agency theory assumes that a substantial increase in the board size could result in a slowdown in decision making and an increase in costs. The finding is in line with Muhammad (2009) and Suparno and Pitoyo (2016).

5. Conclusion

The result of the study shows that firm structural characteristics affect Nigerian agriculture companies' value. Leverage, firm size firm age and board size are variables that affect Nigerian agriculture companies' value. Profitability mediates the effect of firm structural characteristics on Nigerian agriculture companies' value. Based on the findings, the following conclusions were made:

- i. The higher the financial leverage, the lower the profitability level, which in turn, lower the value of the firm.
- ii. The higher the size of the firm, the firm enjoys a higher profitability level, which impacted the higher value of the firm.
- iii. The higher the firm age, the higher the mediation of profitability, impacting, the higher the value of the firm.
- iv. The higher the board size, the lower the mediation of profitability, impacting lower the value of the firm.

Based on the conclusions the study recommends that it's important for listed agriculture companies to give information of each of their account on financial statements which is a signal to be informed to investors and prospective investors because it will provide information to investors who are expecting returns and prospective investors in making decisions on why, when and what to invest in the company.

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