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Mediating effect of innovation on corporate board and organizational performance of listed manufacturing firms in Nigeria

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Abstract

The objective behind this research is to determine the influence of board size (BSZ), board independence (BID), board diversity (BDV), and board meetings (BM), on organizational performance with the use of innovation as mediating variable in the Nigerian listed manufacturing sector. Data were collected from top management and 550 questionnaires distributed among respondents. Only 407 questionnaires returned back and 384 questionnaires use for final analysis and remaining 23 questionnaires excluded due to missing values. PLS-SEM used for analysis purpose and data collected by using simple random sampling technique. Findings reveal that BSZ and BDV have positive influence on organizational performance. Despite this, BID and BM have no influence on organizational performance. BSZ, BID, BDV, BM have significant and positive influence on innovation. Innovation also significantly mediates the relationship between corporate board and organizational performance. Furthermore, Innovation is an important construct in determining organizational performance. It is beneficial for manufacturing organizations to uses this construct in measuring organizational performance through corporate governance.

Keywords: Corporate board, innovation, organizational performance

1. Introduction

The concept of corporate governance did not receive much attention in Nigeria until after the financial scandals reported in the manufacturing sector and the Nigerian banking industry. These include, the Cadbury scandal of 2006, the banks' failures that affected Intercontinental Bank Plc, Oceanic Bank Plc, and Afribank Nigeria Plc in 2009, and most recently, the financial scandals of Stanbic IBTC Holdings Plc in 2015 (Marshall, 2015; Naija 24/7 News, October 28, 2016). This raised serious concern about the corporate governance practices in Nigeria. Since then, there has been a series of reviews and reforms with a view to enhancing the corporate governance structures and practices in the country.

Furthermore, in order to provide the best corporate governance practice in the country the Nigerian legislature has provided a regulator known as the Financial Reporting Council of Nigeria (FRCN) with statutory responsibility to formulate the code of corporate governance in Nigeria and to ensure its compliance. The code is meant to regulate corporate governance for public and private entities and to ensure the transparency, accountability, and reliability of corporate disclosure which will in turn guarantee investors' confidence and protect the interests of the shareholders. Corporate governance (CG) system plays a significant role in the betterment of organizational wealth. (Ali, 2018). In the developing countries, proper governance structure serves as a key determinant in the organizational success that decreases the possibility of monetary crises and the management conflicts (Gompers, Ishii, & Metrick, 2003). The

ultimate goal of CG is to ensure that organizations functions in line with the major motive they are establish, that is the maximization of wealth, which will eventually lead to organizational performance.

Organizational performance is considered the most significant factor for the organizations in measuring their objectives and for gaining success in a competitive market (Rehman, Mohamed, & Ayoup, 2018a, 2019). It is an important indicator for investors, shareholders, stakeholders as well as economic development (Khan & Ali, 2017). Organizational performance has been defined as a set of achievements gained after implementing a set of practices. Measuring performance means assessing the achievements resulting from the implementation of a set of practices (Neely, Gregory, & Platts, 2005). In other words, performance measurement is a process of assessing progress toward achieving predetermined objectives. Through measurement, an organization evaluates and improves its production processes, and assessing the achievements appropriately is critical. Inappropriate performance measures may not only undermine but will also misrepresent the organization's efforts (Upton, 1998).

Organizations are facing many challenges in the current competitive world as a result of a rapid increase in new products, processes and technologies, as well as preferences of customers. Fluctuating environmental threats also compromise their survival. Success in such an environment would be more likely by enhancing organizational performance and paying greater attention to factors that can effectively improve it. Weak organizational performance can significantly reduce the potential to attract new customers whilst also destroying the trust of existing customers. The need to improve performance concerns not only the private sector but also includes the public sector. According to Goodman and Pennings (1977), performance is a necessary factor in organizational analysis and there is no theory on organizations that is void of this concept. In this rapidly evolving and dynamic environment, one of the effective factors for the success of organizations, enhanced organizational performance and surviving the competition, includes concentration on innovation and strategic planning (Alosani, Yusoff & Al-Dhaafri, 2020). Many studies have underscored that innovation often leads to competitive advantage which will eventually leads to organizational performance (Amarakoon, Weerawardena, & Verreynne, 2018; Salunke, Weerawardena, & McColl-Kennedy, 2019).

Innovation in the organization is a key success factor for the development of new products, new services and improved processes (Alosani, Yusoff & Al-Dhaafri, 2020). Many authors have considered innovation as a leading strategy to improve and create new products or services, develop new approaches to production, distribution and supply, modify management processes and deliver ideas that bring about the attainment of high performance and competitive advantage (Aziz & Samad, 2016; El-Kassar & Singh, 2019; Salunke et al., 2019). Hence, innovative strategies have been considered as playing a vital role in boosting performance (Sandvik, Duhan, & Sandvik, 2014). Given the growing importance of strategic planning and innovation toward high performance (Bryson, 2018), several empirical studies have been conducted to investigate the relationship between these two factors and organizational performance in various fields of business (Rosli & Sidek, 2013; Audenaert et al., 2019). However, empirical investigations that have focused on the link between these variables are still limited in developing nations (De Vries, Bekkers, & Tummers, 2016), particularly in the manufacturing sectors. This study focuses to examine the

influence of CG dimensions such as board size (BSZ), board independence (BID), board diversity (BDV), number of board committees (NBCM), and board meetings held in a year (BM) on organizational performance with the mediating role of innovation in the context of Nigeria.

Problem Statement

Based on the revealations from prior studies, management tend to use their privileged position to take resources of the organization inappropriately at the expense of the owners of the business (Kajola, Olabisi, & Fapetu, 2019). Resulting to incessant scandals, crises and wreckage of organizations around the world are so alarming that the global financial market has been greatly disrupted and the growth of economies impeded and Nigeria was not left out in saga (Adetayo & Ben, 2018; Temitope, 2018). However, mismanagement and fraudulent practices committed by company officials have given rise to a global drive for corporate governance mechanisms to checkmate this situation (Ibitayo, 2019; Jeroh, 2018; Kao, Hodgkinson, & Jaafar, 2019). With regard to this, most developed and developing countries are putting measures in place in order to overcome performance failure by making appropriate laws for companies that are operating within their jurisdiction to comply with corporate governance principles (Indarti et al., 2020; Sarpong-Danquah, Gyimah, Afriyie, & Asiama, 2018). Therefore, board of directors is saddled with the responsibility of supervising the managers of the company (Ezinwanne & Nneamaka, 2021; Saona et al., 2020). As strong board is an important factor that influences firm performance (Guan et al., 2021). Therefore, strong corporate governance is highly needed in countries around the world, in order to design guidelines and codes of practice to strengthen governance (Bako, 2018). As investors in Nigeria are less protected (Ogunsanwo, 2019).

Nigerian manufacturing sector experienced distress (Fredrick, 2019; Ikpesu & Eboiyehi, 2018). Due to the problem of poor financial performance confronting Nigeria manufacturing sector as a result of internal control lapses, managerial inefficiencies and weak corporate governance system since the major committers are internal staff and some corrupt members of the top management (Akindimeji, Ogbebor, & Abimbola, 2021). In the same vein, this distress affecting manufacturing sector brings about low GDP in Manufacturing sector since 1982, GDP was 11.77 per cent in that year, but twelve yesars later dropped to 8.34 per cent in 1994 and four years later further reduced to 6 per cent from 1998 up to 2011. In fact, between 1983 to 2019, the contribution of manufacturing sector has remained a single digit (CBN, 2022). In addition, food and beverages manufacturing firms in Nigeria cannot make the most of its profits as well as maximization of shareholders wealth (Umenzekwe, Okoye, & Aggreh, 2021). With this financial distress affecting companies in Nigeria, about 5,896 delisted firms from 1974 to 1988. Between 2002 and 2017 Nigerian stock exchange witnessed 90 delisting of companies either voluntarily or compulsorily (Iliemena & Goodluck, 2019).

In addition, one of the main issues of manufacturing sectors is the unfair competition that many domestic companies (Xhindi & Shestani, 2020). However, this makes manufacturing companies to become inefficient and ineffective in using their assets (Diyanto, 2020). This contributed negatively to the growth of output and increased in demand for imported goods thereby making the domestic economy become highly susceptible to foreign price changes (Mesagan, Olunkwa, & Yusuf, 2018). Thereby decreasing cash flow and increased financial leverage, by causing unfavourable requirement to creditors and

suppliers (Indarti, Widiatmoko, & Pamungkas, 2020). According to Beaver (2002), innovation plays a critical role in the economic progress and competitiveness of organizations and also of countries. It is one of the most salient competitive weapons and a core value capability (Sandvik & Sandvik, 2003). Innovation is also an efficient approach to improve the productivity of organizations (Lumpkin & Dess, 1996), exploit new opportunities (Bakar & Ahmad, 2010) and attain competitive advantage (Naranjo-Valencia et al., 2016).

In order to address the above issues, several studies focus on corporate governance and organizational performance (Abbas Ibrahim & Danjuma, 2020; Adedeji et al., 2020; Coleman & Wu, 2020). However, it was argued that the link between some corporate governance mechanisms and organizational performance may not necessarily be direct, there might be moderators and mediators in their relationship which, future studies should aim to ascertain (Puni & Anlesinya, 2020). Meanwhile, considering the mediating role of innovation can improve the company's organizational performance as its reputation and competitiveness may increase (Khan et al., 2020).

2. Literature Review

Concept of Corporate Governance

Corporate governance can be defined as standard rules and regulations, as well as internal processes of an organization that are aimed to provide guarantees for management who are interested in achieving the rights of the owners and protecting the rights of all the interested parties of the organization (Ghalboon & Khalid, 2011). It is also defined as rules, processes or laws through which companies are governed, regulated, and operated with the sole aim of promoting transparency and efficiency in the financial system and stimulating the assignment of responsibilities in an ethical, professional, and objective manner (CBN Code of CG, 2014). Therefore, good corporate governance is pivotal in providing credible and reliable information which, in turn, enhances the confidence of the investors.

Board Size (BSZ)

Board size refers to the total number directors on the board. Therefore, the board of directors has been considered a vital CG mechanism for aligning the interests between managers and all stakeholders in a firm (Sanda et al., 2010; Appah & Tepebah, 2023). According to Lawal (2012), board size affects the quality of deliberation among members and ability of board to arrive at an optimal corporate decision. Therefore, identifying the appropriate board size is essential because size can be detrimental to CG effectiveness beyond optimal level. However, determining an ideal size of the board has been an ongoing and controversial debate in CG literature (Lawal, 2012; Hussaini & Gambo, 2021). Board size has been found to vary between one country and another as every country has unique cultures. This means that there has to be no optimal and standard board size among the companies in the world. In reality, there is no optimal board size, as the right size for a board should be decided by its effectiveness to operate as a team (Conger & Lawler, 2009 as cited in Zabri, Ahmad & Wah, 2016).

Board independence (BID)

Generally, the composition of the board refers to the proportion of executive and non-executive directors serving on the board (Okolie & Uwejeyan, 2022). Boards of directors include both executive and non-executive directors. Board independence is measured by the percentage of independent outside directors on the board. An outside director is defined as someone who is not, and has not been, directly or indirectly employed by the firm, either as an employee or as a manager. Outside independent directors contribute their skills, connections, and contacts to satisfy all stakeholders and thus

ensure the corporation's improved financial performance and long-term survival. A firm has to have the right mix of directors, particularly outside directors who can bring the diversity of knowledge, skills, experience, expertise, and ties (Pfeffer & Salancik, 1978); as well as, a broader stakeholder orientation (Wang & Dewhirst, 1992) that can help develop an effective management strategy leading to superior organizational performance.

Board Meetings (BM)

Vafeas (1999), was the first person that argues that a number of board meetings play an important role in enhancing organizational performance. Similarly, one of the authors recommends that board meetings frequency will possibly improve the performance of an organization since board meetings consider a measure of supervision efficacy and after that influence on overall organizational outcome (Lipton & Lorsch, 1992). Certain prior studies demonstrate that board activity has a significant influence on organizational performance (Brick & Chidambaran, 2010; Kaur & Vu, 2017). One of the recent studies reveals that board meetings play a significant role on organizational innovation (Asensio López, Cabeza García, & González Álvarez, 2018).

Board Diversity

Boards are concerned with having right composition to provide diverse perspectives. The presence of women in the board therefore, increased the board's ability to monitor the management more objectively (Carter, D'Souza, Simkins & Simpson, 2010). Greater female representation on boards provides some additional skills and perspectives that may not be possible with all-male boards (Boyle & Jane, 2011). Board diversity promotes more effective monitoring and problem-solving. Boyle and Jane (2011) contend that female board members will bring diverse viewpoints to the boardroom and will provoke lively boardroom discussions. Gender is arguably the most debated diversity issue, not only in terms of board diversity, but also in politics and in other general societal situations. There are several countries in which CG legislation establishes a quota for the number of women on boards and this explained what has been described as growing regulatory pressure on firms worldwide to address the under-representation of women in senior positions (Chapple & Humphrey, 2014). In a study, Terjesen, Couto and Francisco (2015) state that the presence of female directors is recommended in 16 countries and mandated by gender quotas in 14 countries. In addition, board diversity promotes creativity and innovation in the decision-making processes, which in turn, enhances the firm's financial performance in the long run. Board gender diversity improved information provided by the board to the management due to special skill set, experiences and complimentary knowledge held by diverse directors. Diverse directors also provide access to important constituencies and resources in the external environment which increases the networks of the organization, and promotes prosperity. Women are thought to ask hard questions in the board that their men counterparts may not be comfortable to ask.

Organizational Performance

Organizational performance has been defined as a set of achievements gained after implementing a set of practices (Alosani, Yusoff & Al-Dhaafri, 2020). Measuring performance means assessing the achievements resulting from the implementation of a set of practices (Neely, Gregory, & Platts, 2005). In other words, performance measurement is a process of assessing progress toward achieving predetermined objectives. Through measurement, an organization evaluates and improves its production processes, and assessing the achievements appropriately is critical. Inappropriate performance measures may not only

undermine but also misrepresent the organization's efforts (Upton, 1998).

Throughout its history, performance measurement systems have undergone a revolution, as explained by Neely et al. (2005) and Ghalayini and Noble (1996), from a purely financial emphasis to comprising more comprehensive business characteristics. According to Ghalayini and Noble (1996), the development of performance measurement was divided into two phases. The first phase purely emphasized financial performance measures such as profit, return on investment, price variances, return on sales and sales per employee. This performance was formally reported as financial outcomes (Abdel-Maksoud, Dugdale, & Luther, 2005). However, Schonberger (1996) argued that financial data were not the best measures of a manufacturing company's strength and prospects. Just as non-financial indicators (such as quality, flexibility, etc.) cannot be quantified accurately, so financial performance measures may produce misleading information that could undermine the achievement of a company's strategic objectives (Bhasin, 2008). Thus, they are not suitable for making strategic decisions. In other words, financial performance may not be relevant to practice because it is attempted to quantify performance in financial terms, whereas most of the improvements on the shop floor are unsuitable to be quantified in dollars (Ghalayini & Noble, 1996). Hence, traditional performance measures may not support continuous improvement efforts in a plant.

Innovation

Innovation is one of the vital issues in organizations. It is also a wide and loose topic that covers several disciplines, such as product and service development, organizational behavior, operational management, marketing, technology management and quality management (Hauser, Tellis, & Griffin, 2006). According to Beaver (2002), innovation plays a critical role in the economic progress and competitiveness of organizations and also of countries. It is one of the most salient competitive weapons and a core value capability (Sandvik & Sandvik, 2003). Innovation is also an efficient approach to improve the productivity of organizations (Lumpkin & Dess, 1996), exploit new opportunities (Bakar & Ahmad, 2010) and attain competitive advantage (Naranjo-Valencia et al., 2016). O'Toole (1997) defined innovation as the adoption or generation of new ideas, objects or practices. It is a means for an organization to change, either as pre-emptive actions to affect the environment or in response to changes in the external environment. While Alosani, Yusoff and Al-Dhaafri, (2020) defined innovation to cover various components, including new organizational structures, new process technologies, new products or services or new programs or plans for an organization's employees.

Innovation and Organizational Performance

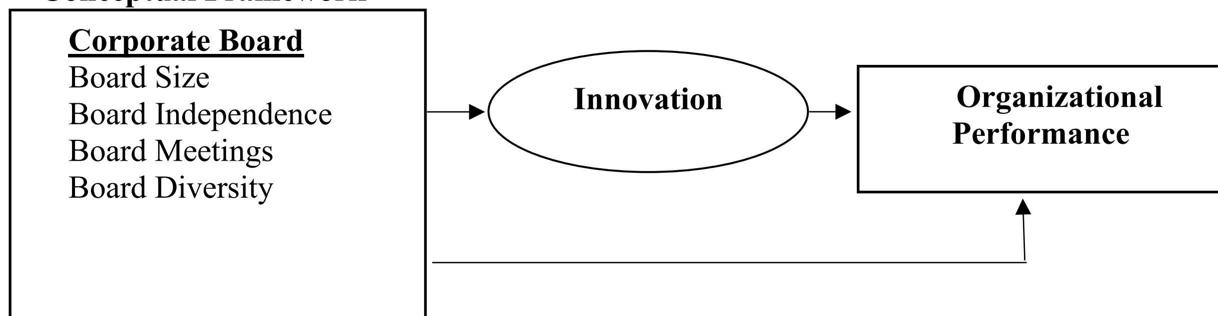
Many studies have asserted that innovation is the most critical factor in improving organizational performance (Wheelwright & Clark, 1992) and long-term success (Scott, Van Reenen, & Zachariadis, 2017). It has a significant role to play in improving productivity and increasing the efficiency of production (Baumann & Kritikos, 2016; Mansury & Love, 2008), enhancing revenue (Shefer & Frenkel, 2005) and increasing the firm's value (Bowen, Rostami, & Steel, 2010). In addition, innovation enables organizations to provide a greater variety of differentiated products that can increase organizational performance (Hitt, Ireland, Camp, & Sexton, 2001).

Many scholars have pointed out that innovation has an impact on organizational performance (Tajuddin, Iberahim, & Ismail, 2015; Cai & Li, 2018; Rosman, Suffian, Marha, Sakinah, & Mariam, 2018;

Davila, Varvakis, & North, 2019). These studies have been carried out across different economic sectors around the globe. For instance, Bommer and Jalajas (2004) claimed that greater innovation assists organizations to attain sustainable competitive advantage, improve organizational performance and respond to changes and challenges. Further, speed of innovation gives organizations an opportunity to attain a greater market share, which can lead to high profitability and income (Garcia-Morales et al., 2008). McMillan (2010) denoted that innovation brings efficiency and effectiveness, i.e. the two main criteria influencing success and long-term survival. Adopting an innovative culture can establish "isolation mechanisms" as the knowledge generated from innovation becomes unavailable to competitors (Aragón-Correa, García-Morales, & Cordón-Pozo, 2007); this feature permits the organization to improve its performance, achieve more profits, and gain and maintain a competitive advantage. In addition, a study by Tajuddin et al. (2015) reported that innovation has a substantial role in improving organizational performance. Thus, greater innovation allows an organization to better respond to the environment, improve its capabilities and maintain a competitive advantage (Calantone et al., 2002; Salunke et al., 2019).

As for innovation in the public sector and its impacts on organizational performance, there are several limitations in studying this relationship, given the scarcity of available empirical studies (Audenaert et al., 2019; Walker & Damanpour, 2009). Nor have current studies specifically investigated the performance outcomes of innovation, which, therefore, provides clues to uphold the idea that innovation may have different effects on several aspects of organizational performance, findings that reinforce the studies of Walker (2005) on private and public sector innovation and their impact on organizational performance. Some evidence has been offered that even though success through innovation is not guaranteed and is risky, its adoption can promote organizational performance.

Conceptual Framework



3. Methodology

The research methodology is a significant part of research to determine the objectives of that research (Rehman et al., 2019). In achieving this, the appropriate analysis technique used to see the problem and objective of that specific research (Rehman et al., 2019). Hence, in this research, to see the nature, problem, and research objectives we employed a quantitative approach, the cross-sectional design used in collecting data from respondents by using questionnaire technique. This study is deductive in nature as a theoretical framework developed on the basis of existing theory.

The aim of this research is to examine the mediating effect of innovation on the relationship between corporate board and organizational performance. To achieve the research objective, a survey research design will be used; which involves gathering of primary data via a questionnaire. The targeted respondents are top management of listed manufacturing companies. The targeted population of the study are staff of the selected sectors of the economy. Besides, there are 37 states in Nigeria including the federal capital territory. The states are grouped under six (6) geopolitical zones. Therefore, considering the fact that collecting data from all the members of the population which the researchers are studying is not always feasible, thus this study targets four geopolitical zone of the country; the north central, north east, north west and also the south west. Two states will be selected from each geopolitical zone. Accordingly, a sample will be selected out of the population in the states selected for this investigation. To ensure there is objectivity in the sampling procedure, a purposive sampling technique will be used in this study and selected a representative sample from the total population, as this is often used in quantitative research

Data Collection

Data collection is an integral part of research design. There are mainly three types of data collection methods in a survey research: interview, observation and questionnaire classified as non-experimental design (Zikmund, 2000). The survey data technique to be adopted for this study is in-person administered survey. The target respondents will be reached and the questionnaire instrument will be delivered to the participants by either the researchers or the survey team members. To ensure ease of access to target respondents, a group of survey team members will be employed and adequately trained for the exercise. The survey team members will be colleagues from neighbouring institution within Bauchi State. The survey team members most clearly understand how the data collection procedures will be carried out. Each team member will be given the list of target respondents, with numbered self-administered questionnaires for keeping track of the respondents. In the end, the returned questionnaires will be used for the analysis, while cases of unreturned questionnaires will be treated according to the acceptable research norms.

Respondents profile

This study used the top management of the listed manufacturing companies as the targeted respondents. The total number of questionnaires distributed among respondents was 550 and 384 used for analysis purpose that is 69.81% response rate. Table 1 represents the organization profile of the respondents. It also shows that 67.44% of the respondents have a master's degree. Majority of the respondents are from the accounting and finance field which is 66.92% of the total respondents. Based on the experience of respondents, 76.03% of the respondents have experience at most 10 years. 48.70% of the organizations have employees within 401-650. Average annual revenue of the organizations is within 151 to 250 million naira.

Table 1 Respondents Profile

Construct	Category	Number of Cases	Percentage
Qualification	Diploma	05	1.302
	Bachelor Degree	65	16.93
	Master's Degree	259	67.44
	P.Hd	44	11.46

	Others	11	2.86
Field of study	Business	134	20.31
	Accounting	123	34.89
	Finance	46	32.03
	Administration	12	11.97
	Others	119	3.12
Experience	Below 5 years	173	30.98
	5 to 10 years	70	45.05
	11 to 15 years	13	18.22
	15 to 20 years	88	3.38
Number of employees	150 to 400	187	2.34
	401 to 650	78	22.91
	651 to 950	31	48.70
	Above 950	98	20.31
Average annual revenue	At least ₦ 150 million	178	8.07
	151 to ₦ 250 million	75	25.52
	251 to ₦ 500 million	33	46.35
	Above ₦ 500 million	30	19.53

4. Results and Discussion

Data Analysis

Table 2 Factor Loadings, Average Variance Extracted (AVE), and Composite Reliability (CR)

Construct	Items	Factor Loading	AVE	CR	Cronbach's Alpha	R^2
Board Size	BSZ1	0.875	0.745	0.898	0.829	
	BSZ2	0.886				
	BSZ3	0.828				
Board Independence	BID1	0.793	0.676	0.862	0.761	
	BID2	0.848				
	BID3	0.825				
Board Diversity	BDV1	0.855	0.579	0.872	0.819	
	BDV2	0.822				
	BDV3	0.710				
	BDV4	0.683				
	BDV5	0.719				
Board Meetings	BM1	0.899	0.771	0.910	0.853	
	BM2	0.917				
	BM3	0.815				
Innovation	INV1	0.780	0.500	0.854	0.795	0.886
	INV2	0.874				
	INV3	0.768				
	INV6	0.580				
	INV7	0.588				
	INV9	0.596				
Organizational Performance	OP1	0.704	0.616	0.905	0.875	0.503

Construct	Items	Factor Loading	AVE	CR	Cronbach's Alpha	R^2
	OP2	0.780				
	OP3	0.859				
	OP5	0.810				
	OP8	0.722				
	OP9	0.823				

Table 3 Discriminant Validity

Variables	BSZ	BID	BDV	BM	INV	OP
Board Size	**0.863**					
Board Independence	0.243	**0.822**				
Board Diversity	0.475	0.229	**0.761**			
Board Meetings	0.532	0.180	0.692	**0.902**		
Innovation	0.531	0.231	0.342	0.731	**0.707**	
Organizational Parformance	0.435	0.206	0.420	0.423	0.477	**0.785**

The study employed Partial Least Square (PLS) structural equation modelling technique in conducting the data analysis. Specifically, Smart PLS software will be used to test the theoretical model. The PLS path modelling is regarded as the most appropriate technique in this kind of study for some reasons: First, even though PLS

Table 4 Direct relationships

Hypotheses	Paths	Original Sample	T-Values	P-Values	Results
H_1	BSZ->OP	0.142	2.824	0.002	Accepted
H_2	BSZ->INV	0.059	2.940	0.002	Accepted
H_3	BSZ->INV->OP	0.029	2.261	0.012	Accepted
H_4	BID->OP	0.058	1.408	0.088	Not Accepted
H_5	BID->INV	0.067	3.173	0.001	Accepted
H_6	BID->INV->OP	0.033	2.600	0.005	Accepted
H_7	BDV->OP	0.304	3.571	0.000	Accepted
H_8	BDV->INV	0.774	22.05	0.000	Accepted
H_9	BDV->INV->OP	0.383	4.822	0.000	Accepted
H_{10}	BM->OP	0.062	1.137	0.128	Not Accepted
H_{11}	BM->INV	0.139	4.118	0.000	Accepted
H_{12}	BM->INV->OP	0.069	3.092	0.001	Accepted
H_{13}	INV->OP	0.494	5.022	0.000	Accepted

BSZ= Board size; BM= Board meetings held in a year; BID= Board independence; BDV= Board diversity; INV= Innovation; IC= Innovative culture; OP= Organizational performance

The predictive relevant of study model

In calculating predictive relevance of model there is a need for two things such as R-square (R2) and cross-validated redundancy (Q2). R2 refers to the variance of the dependent variable that all independent variables explained. Table 2 demonstrates that 88.6% innovation explained by BSZ, BID, BDV, and BM. While, 50.3% organizational performance explained due to BSZ, BID, BDV, BM and innovation. According to Cohen (1988), R2 considers weak (0.02 to 0.13), considers moderate (0.13 to 0.26), and considers substantial in case R2 higher than 0.26. In the current research, INV and OP consider substantial. Q2 computed to know the quality of the model in SmartPLS to use

blindfolding technique. The value of Q2 must be greater than zero as recommended (Chin, 1998). However, the current research fulfills this criterion as Q2 of INV 0.412 and OP 0.273 as demonstrates in table 5.

Table 5 Predictive Relevance of the Study Model

Total	R^2	Q^2
Innovation	0.886	0.412
Organizational Performance	0.503	0.273

Discussion of Results

The main objective of this study is to determine the mediating effect of innovation on the relationship between corporate board (BSZ, BID, BDV and BM) and organizational performance of listed manufacturing firms in Nigeria. The results reveal that BSZ has a positive influence on OP (β=0.142, t=2.824, p<0.05), these findings are consistent with the work of Ozcan and Ince (2016). Meanwhile, BSZ also has a positive influence on INV (β=0.059, t=2.940, p<0.05). This is also in line with the work of Galia and Zenou (2018). In addition, INV has a significant positive mediating effect on the relationship between BSZ and OP (β=0.029, t=2.261, p<0.05). These results are supported with the view of the resource dependency theory that large BSZ, directly and indirectly, enhances OP (Pfeffer, 1972). Furthermore, the result also reveals that BID has no influence on OP (β=0.058, t=1.408, p>0.05). This is in line with the outcome of the work of Villalonga and Amit (2006). However, BID has a positive influence on INV (β=0.067, t=3.173, p<0.05). This outcome was earlier affirmed by the work of Balsmeier et al. (2017). The result further proves that INV significantly and positively mediates the relationship between the BID and OP (β=0.033, t=2.600, p<0.05).

Meanwhile the result shows that BID has no direct influence on OP but INV significantly explains the relationship between BID and OP this is also supported by agency theory. Subsequently, the result reveals that BDV has a positive influence on OP (β=0.304, t=3.5714, p<0.05). This outcome is consistent with the work of Kim et al. (2013). These findings are in line with the views of resource dependency and stewardship theories that BDV improves OP. In addition, BDV has positive influence on INV (β=0.774, t=22.053, p<0.05). The findings are also consistent with the work of Miller and del Carmen Triana (2009). The study further reveals that INV significantly and positively mediates the relationship between BDV and OP (β=0.383, t=4.822, p<0.05).

Moreover, the result shows that BM has no influence on OP (β=0.062, t=1.137, p>0.05). This is consistent with the work of Makhlouf et al. (2017). In addition, the result further reveals that BM has positive influence on INV (β=0.139, t=4.118, p<0.05). The further reveals that INV significant and positive mediating effect on the relationship between BM and OP (β=0.069, t=3.092, p<0.05). The in line with the view of agency theory as well as the work of Asensio López et al. (2018).

5. Conclusion and Recommendations

The study found that only two factors of corporate governance such as BSZ and BD have significant positive influence on OP. Whereas, all four factors of corporate governance used in this study have significant and positive influence on organizational performance. INV significantly mediate the relationship between BSZ, BID, BDV, BM, and OP. Hence, this study concludes that listed manufacturing companies enhance organizational performance by focusing on these four elements of corporate governance, innovation. Meanwhile, manufacturing companies can focus on this construct with corporate governance and

OP because BID and BM have no direct influence on OP but with the inclusion of INV, this insignificant relationship converted into a significant and positive term. This study suggests that corporate governance elements can increase OP only with the use of the third variable between these constructs that is INV.

6. Limitations and Suggestions

This study focuses on listed manufacturing companies and provides a significant contribution to the literature but the results of the current study cannot be generalized in the whole world. Hence, there is a need to explore further current study model in the other sectors (banking, agricultural, oil and gas amongst others) in Nigeria as well as in other countries. In addition, there is a need to study corporate governance and performance by using other mediating variables such as organizational culture and organizational capabilities. Moreover, in future management controls systems and corporate governance can both be used as an independent variable to measure organizational performance.

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