Distributed leadership and administrative processes as determinants of public universities' effectiveness

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Abstract

The quality of students who graduated from Nigerian universities and the role played by universities in the growth of society is a significant concern to every stakeholder. This study examined the impact of distributed leadership on the effectiveness of public universities and the mediating role of the quality administrative process. A correlational survey research design was adopted. A total of 450 lecturers were sampled and were given questionnaire of which 346 questionnaire were returned and, only 305 questionnaires were usable after the data cleaning. The results of the analysis showed that distributed leadership does not directly connect to institutional effectiveness. Furthermore, it is evident that administrative process intervenes in the correlation between distributed leadership and public university effectiveness. The findings imply that the various leaders at the unit level, departmental, faculty, and university-wide must ensure quality administrative processes to bring about the desired University system in the country.

Keywords: Distributed leadership, administrative process, university education, Nigeria, smartpls, hierarchical model;

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1. Introduction

The quality of graduates produced in Nigerian universities and their contribution to the growth of society has been a significant concern to every stakeholder such as the employers of labours (Kayode, Oduwaiye, Etejere, Sheu, & Kutu, 2018). In response to the current rise in competitiveness in diverse segments of the economy, including university education worldwide and specifically, universities in Nigeria; there is a necessity for universities to produce high-quality graduates at a small cost. This indisputably necessitates strong political as well as institutional leadership. Leadership has been acknowledged as a significant, influential factor that stimulates the accomplishment of quality in the service sector (Azim, Fan, Uddin, Jilani & Begum, 2019). However, leadership, as well as administrative processes in the university system, are inseparable because leadership is a good determining factor of quality managerial procedures (Ajah & Chigozie-Okwum, 2019).

Because of the enormous pressure on universities to be answerable and respond to stakeholders' needs, it is pertinent for a university to be further productive, efficient and customer-focused in their activities (Sahney, 2011). Universities and their academic leaders are thus faced with a duty to provide graduates with the competencies expected of them at the tertiary level (Trilling & Fadel, 2009). As learning is the primary goal of university education; the fundamental task of university leaders is to enrich students' learning outcomes in their various universities (Rhodes & Brundrett, 2010). Excellent results in stakeholder, employee and community contentment outcomes are achieved through successful leadership and strategy, staff partnerships and resourcefulness, and qualitative processes (Grewal, 2012). This opinion was further confirmed by Anis, Islam and Abdullah (2018). Argia and Ismail (2013) that the poor performance level encountered in our universities is the refusal of the leader to provide specialist staff, sufficient institutional resources and necessary facilities to offer excellent programs and support academic undertakings. Therefore, the role of leadership for quality improvement in any organisation cannot be undermined.

The effectiveness of the university is its' competence to adapt its output to defined purposes, as described in its mission (Kayode& Naicker, 2019). The basis of institutional effectiveness is a valid evaluation programme that determines outcomes and informs the public of how institutional programmes and services positively affect students, the community, and the society (Banta, Lund, Black, & Oblander, 1996). However, stakeholders' desires are ways of transforming or enhancing the standards of the university system (Bush, 2010). The objectives of university education in Nigeria as set out in Section B, sub-section 59 of the National Policy on Education include contributing to the nation's growth through adequate training of the workforce and promoting standards for the continued existence of individuals and communities as specified by the Federal Republic of Nigeria (FRN, 2013). The policy further illustrates how to achieve such goals by through teaching, programs for employee development, research, and programs for service-learning. As commendable as the university education goals are, very little progress has been made in actualising them since the capacity of university education to produce high-quality graduates in Nigeria is undermined (Olasehinde-Williams, 2012).

Nigeria is still not able to meet the basic needs and expectations of the general population despite the large turn-out of graduates annually. Labour force employers are worried that many graduates today are typically unemployable even when they are first placed into a programme of crash remedies (Okojie, 2013). Furthermore, universities abroad were unwilling to accept numerous Nigerian university certificates without sending those institutions' graduates to other rounds of qualifying examinations (Kayode, Yusoff and Veloo, 2016). To ensure quality in university education, leadership is perhaps an

essential actor that bestows vision to the individual institution and for maintainable provision of the needed workforce (Sahney, Banwet, & Karunes, 2010). This was supported by Sakthivel (2007) who considered leadership as the most considerable momentum in the institution of academic service conveyance device which enhances quality assurance procedures. As such, the other factors of the educational system rely on the ability and capability of the leaders.

Tight(2019) conducted a review of the leadership and higher education research and concluded that leadership activities that will provide the conditions for lecturers and others members of staff to realise their potential, as well as interest in their work, are required. Even though leadership has been considered as an area where extensive research has been carried out, there is little understanding of the actual phenomena surrounding organisational behaviour (Hrivnak, 2009). Furthermore, the mainstream of research conducted on leadership in university education resolve that there is a broad spreading of leadership or leadership should be distributed across the universities (Bolden, Petrov, & Gosling, 2009; Lumby, 2013). Despite these numerous studies on leadership, the simple procedures and methods of leadership distribution within the universities coupled with the consequences of techniques and change adopted by university leaders had not been given much consideration (Bolden et al., 2009). While distributed leadership practice is still coming to light, countries such as Hong Kong, Australia, United Kingdom, United States of America, New Zealand and parts of Europe have adopted it as part of educational reforms (Harris, 2010). Nigeria has also been practising distributed leadership (any reference here to support the claim), but more research is required regarding its implementation. Therefore, the relationship between learning and leadership is gaining more acceptance as being one of the indispensable problems in enhancing the effectiveness of university education and the critical drivers of change in many countries. Thus, the justification for this study.

2.Hypotheses and Structural Model

2.1   Distributed leadership and institutional effectiveness

According to Prajogo and Brown (2004), leaders' commitment affects the quality performance of any organisation to a large extent. More recently, Hamel (2012) stated that there is need to have second thoughts on both leadership processes and management structures in establishments that are better tailored to elaborate an ambiguous settings, connectivity, globalisation, and knowledge-societies. The modern day's leaders, according to DuFour (2002), concentrate on learning through changing their concentration and that of the university community from purpose to outcomes as well as from inputs to result.

Many studies have been conducted on the relationship between distributed leadership and institutional effectiveness. Papademetriou (2012) study in a school district in Cyprus found that distributed leadership is a kind of leadership that brings about the development of learners' outcome, organisational effectiveness and teachers' job satisfaction. A study was undertaken in Canada, and the United States of America (USA) about changes that occurred in public schools as a result of leadership and its effect on student academic success discovered that the dominant force that leads to a long time change was the sustainability of leadership (Christison & Lindahl, 2008). This was in support of Marzano, Waters, and McNulty (2005) study, which asserted that school effectiveness either decreases or increases the student's chance of success and that what leads to school effectiveness is in large part, is its leaders. Therefore, learners' achievement, to a large extent depends on the action of the school leaders. Lee (2013) investigated the influence of the school supervisor's leadership style on organisational effectiveness, using organisational commitment and organisational change as mediators.

The outcome revealed that a supervisor's leadership style has a significant and direct positive effect on organisational effectiveness (Lee, 2013). Harris (2004) investigated the influence of distributed leadership on school improvement. A conclusion was reached that, while distributed leadership can assist in school capacity building, further research is needed to corroborate the impact of distributed leadership on student learning outcome.

There is evidence in the literature that found that there is no direct link between school leadership and school effectiveness. One study of leadership influence on students' achievement in selected schools in the Netherlands carried out by Bruggencate, Luyten, Scheerens, and Sleegers (2012) revealed that no direct relationship existed between school leadership and students' outcomes. The inconsistency in previous findings suggests the need for further investigation. Thus, the first hypothesis in this study stated that:

H1: Distributed leadership has a significant positive relationship with the effectiveness of public universities in Nigeria.

2.2 Distributed Leadership and Administrative Process

Leadership roles in the school system that are frequently spread by the school head include setting the institutions' mission, restructuring the school system, professional development programs as well as managing instruction (Leithwood, Day, Sammons, Harris, & Hopkins, 2006). According to Spillane (2006), leaders are expected to nurture an environment where individual members in the school system are allowed to contribute significantly to the success of the organisation. However, several studies have uncovered the importance of investigating leaders' behaviour in the school learning environment (Dekawati, Komariah, Mulyana, Kurniady, Kurniawan & Salsabil, 2020).

Wallach (2010) examined the effect of distributed leadership on decision making in high schools on school reform. The findings of this study suggested that teachers' disparate sense-making can lead to distrust as well as competition across the organisation, thereby causing shifts towards misaligned patterns of leadership distribution. A correlational study conducted by Black (2010) among principals and teachers in Ontario, a significant and positive relationship between servant leadership and school environment was reported. Elmore (2000) warns that collaborative teacher work alone will not translate to improving teacher practices and improved learning outcomes, as there must also be a strong organisational emphasis on large-scale change and development in the entire school. Thus, the second hypothesis of this study:

H2: Distributed leadership has a significant positive relationship on administrative processes.

2.3 Administrative Processes and Institutional Effectiveness

This study analysed the administrative process in terms of students' enrollment, recruitment of personnel, support services, facilities and climate, as well as policies and strategies. To measure the effectiveness of an institution, Ottih (2002) was of the view that system approach indicators include the capability of the institution to obtain limited and valued resources, and these may not be accessed when there are influences on recruitment procedure and processes. When the best applicant is recognised and positioned on the job, they stay and provide their utmost in the institution, thereby helping the institution to achieve its predetermined goals. According to Sule and Ugoji (2013), recruitment processes and procedures which help in recruiting and maintaining the skilful employees in an

organisation affects organisational wellness, which can be assessed by evaluating the commitment of staff to corporate objectives and employees ' job satisfaction. Thus, the organisation must handle employees well for quality, efficiency and high level of productivity in the organisation.

The study carried out by Cardoso, Ferreira, Abrantes, Seabra, and Costa (2011) to determines the relationship between teacher-student collaboration, self-confidence, student-student interaction and its influence on students' academic performance in Portuguese high school students. The findings revealed that the interaction between student-student and teacher-student has a direct and positively influences on learners' performances which in turn has direct and positive influences on their academic attainment. Underpinning previous researches, this study suggested that an appropriate pedagogical interaction and productive learning environment should be enhanced to improve students' learning outcomes. This was additionally in line with Yang (2006) who conveyed that TQM strategies such as process management, worker collaboration and teamwork, customer satisfaction management, quality target setting and quality tool coaching have significant positive effects on customer satisfaction. As such, the implementation of TQM is a crucial measure of how organisations can gain a competitive advantage.

Furthermore, Sila and Ebrahimpour (2005) studied the associations between TQM factors like leadership, process management, strategic designing, human resource management, client focus, info and analysis and therefore the results confirmed a positive relationship with human resource results, organisational effectiveness as well as fiscal and industry forecasts. They acknowledged leadership, process management and information as the key issues that function as the nitty-gritty on attaining organisational effectiveness (Fotopoulos & Psomas, 2010). Therefore, from the findings of previous studies, it can be postulated that:

H3: Administrative process has a significant positive relationship with institutional effectiveness.

2.4 Administrative Process as Mediator between distributed leadership and institutional effectiveness

Although several studies have identified a clear correlation between distributed leadership and institutional effectiveness (Davis, 2009; Lambert-Knowles, 2013; Papademetriou, 2012), there is also evidence in other studies that show little or indirect significant association between the outcomes of school leadership and student learning (Hallinger & Heck, 2010). Statistically however, leadership activities have been shown to have a significant impact on the aspect of the school learning environment (Leithwood, Louis, Anderson & Wahlstrom, 2004). This was also supported in the study conducted by Cardoso et al. (2011), which showed an essential positive correlation between the school learning environment and student achievement in high school Portuguese.

In Rhode Island middle and elementary schools, Braun, Gable, and Kite (2008) studied the link between critical leadership training activities, school learning climate, essential leadership behaviour and student achievement. Study results indicate that there is an indirect association between leadership behaviour and student achievement in the school learning environment. The work suggests that the principal leadership activity in the school learning environment has a significant positive association, and the school learning environment also has a good connection with student achievement. Furthermore, according to Stein and Spillane (2005); Hallinger and Heck (2010), there is evidence that there is no

direct correlation between the activities of leaders and student achievement, but an indirect effect has been found through school learning environmental variables such as school culture, teacher quality, parental participation to impact student achievement.

As suggested by scholars (Day, Gronn, & Salas, 2006; Leithwood et al., 2010), dispersed school leadership offers a viable way to improve the learning-focused environment that contributes to the high-performance school. Therefore, this study identified administrative processes cum student admission, recruitment of personnel, support facilities/environment as well as school policy and strategy as an intervening variable between distributed leadership and universities' effectiveness. Thus, the fourth hypothesis:

H4: administrative process mediates the link between distributed leadership and effectiveness of public universities.

2.5   *Theoretical Framework*

Micro-foundation perspective of the resource base view was adopted in this study as its underpinning theory (Barney & Felin, 2013; Garbuio, King, & Lovallo, 2011). The resource-based view of micro-foundations perspective according to Felin and Foss (2009), brings in individual-level inputs to the form of resource base view. The macro or organisational level of the resource-based view, on the other hand, established the importance of bundling the internal resources together in dynamic and unique ways to realise the success or make the organisation more effective. If the resources are considered valuable, hard to imitate, rare and non-substitutable, sustainable competitive advantage is achieved (Barney, 1999).

According to resource base view, resources are all assets, routine, processes, skills, capabilities, attributes, orientation, knowledge and information controlled by an organisation which enables it to execute strategies that enhance effectiveness and competitiveness ability of the organisation (Janney & Dess, 2006). The resource base view explains the question of what contributes to the success and effectiveness of an organisation and therefore, evidence that greater emphasis should be on leveraging every available internal capability and resources in an establishment as compared to Porter's (1980) view of external forces, positioning and industry-based approach as integral factors towards competitive advantage.

The recent focus of resource base view towards the micro-foundations perspective of internal organisational resources climaxes the fundamental role of human capital or people as the substance resources vital to organisational effectiveness and competitiveness (Barney & Felin, 2013; Foss, 2011). According to Felin and Foss (2009), human resources through individual employees' competencies, coordinated efforts and interactions and; organisational value, the broader goals of the organisation are attained. Moreover, as people or human are seen as a vital internal resource, the origin of corporate value, competitiveness and capabilities are better explained by having a closer evaluation on individual level valuable attributes of the people embedded in the organisation (Barney & Felin, 2013). Therefore, the micro-foundations perspective of resource base view suggests that the organisational capabilities, values, routines, and effectiveness emerged or are created as a result of individual performance which originated from personal motivation, actions, behaviour, and interactions (Barney & Felin, 2013; Foss, 2011).

As a result of this, Foss (2011) revealed that it becomes pertinent for one to understand the individuals that constitute the organisation before exploring matters at the organisational level. This study emphasised universities effectiveness entrenched in the interaction among their individual-level behavioural attributes, which may enhance institutional effectiveness. The micro-foundation has also emphasised the crucial roles of critical employees which include leaders alongside their behavioural practices in terms of leadership functions, participatory decision making and cooperation within the leadership team as well as administrative processes which as micro-foundation resources influence universities effectiveness (Barney & Felin, 2013; Foss, 2011). Consequently, the individual leaders' inputs would potentially exert a significant impact on the success of their follower's groups and the universities at large (Jing & Avery, 2011). The Resource base View and developing theory believe on the fact that basis or approach for an organisation to attain competitive advantage or effectiveness lies mostly on how such organisation uses the bundle of productive resources it possesses (Wernerfelt, 1995). Therefore, based on the assumption of the resource-based view, the administrative process is positively related to institutional effectiveness and, it can be deduced that quality administrative processes which according to resource base view include both tangible and intangible resources meaningfully intervene in the connection between leadership and institutional effectiveness (See Figure 1).
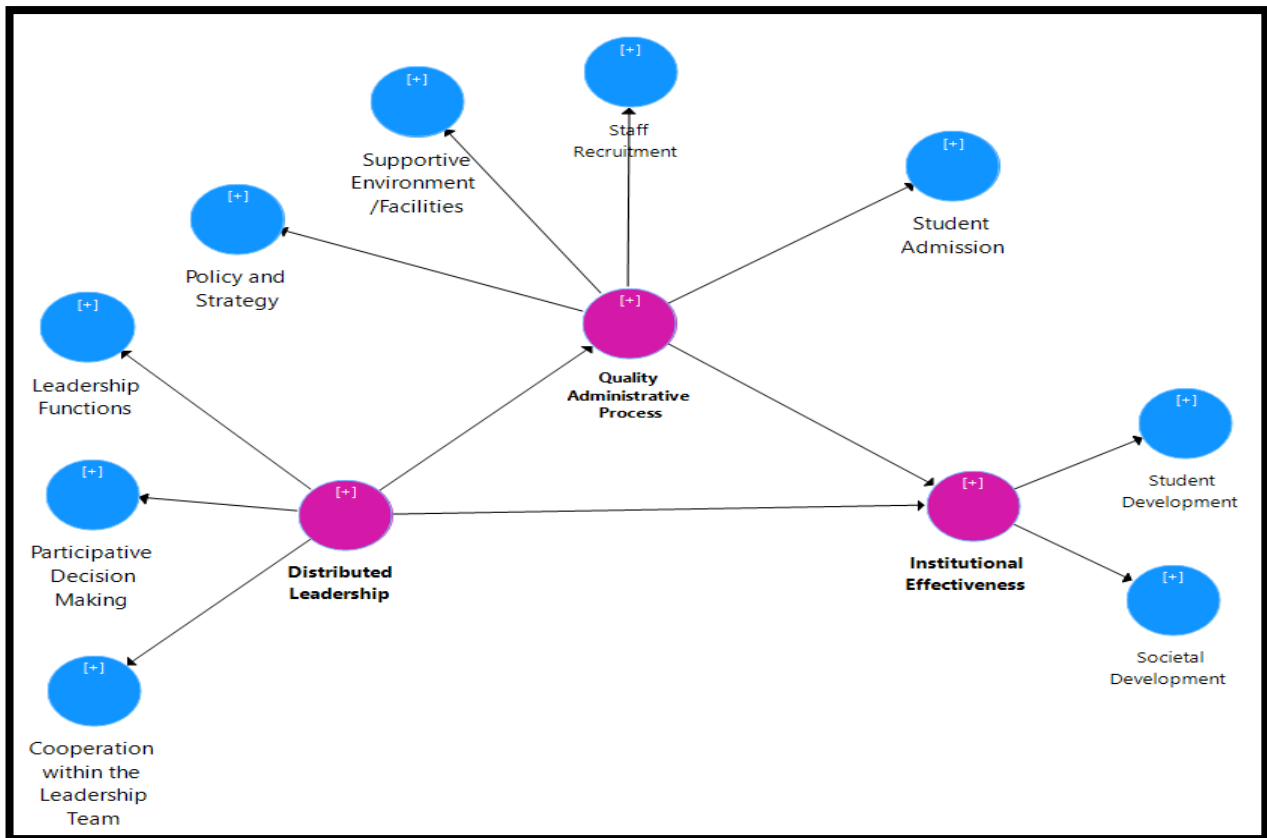

Figure 1 Conceptual framework

3. Methods

3.1   Participants

This research adopted a quantitative approach of survey type. All the lecturers in the 79 public universities in Nigeria made up the population for this survey. According to Alechenu (2012), the total number of all Nigerian public university lecturers was 37,504, consisting of 23,030 federal university lecturers and 14,474 state-owned university lecturers. As Hair, Black, Babin, and Anderson (2010) stressed, the minimum sample size needed in a study depends on the intricacy and characteristics of the measurement model. Awang (2013) further commented that the minimum sample size required is 300 for any model with seven or less latent variables. The research model in this study has four constructs all in second-order measurements and has been considered as the sample size for this study to satisfy all of the required conditions outlined above; 450 participants. For selecting participants for this research, a multilevel mix sampling technique (Cohen, Manion, & Morrison, 2011) was incorporated. The sample size of 450 respondents was divided by the 90 faculties/colleges; a systematic random sampling approach was implored to choose five respondents across all faculties of the sampled universities, including the dean or subdean, one department head and three other academic staff.
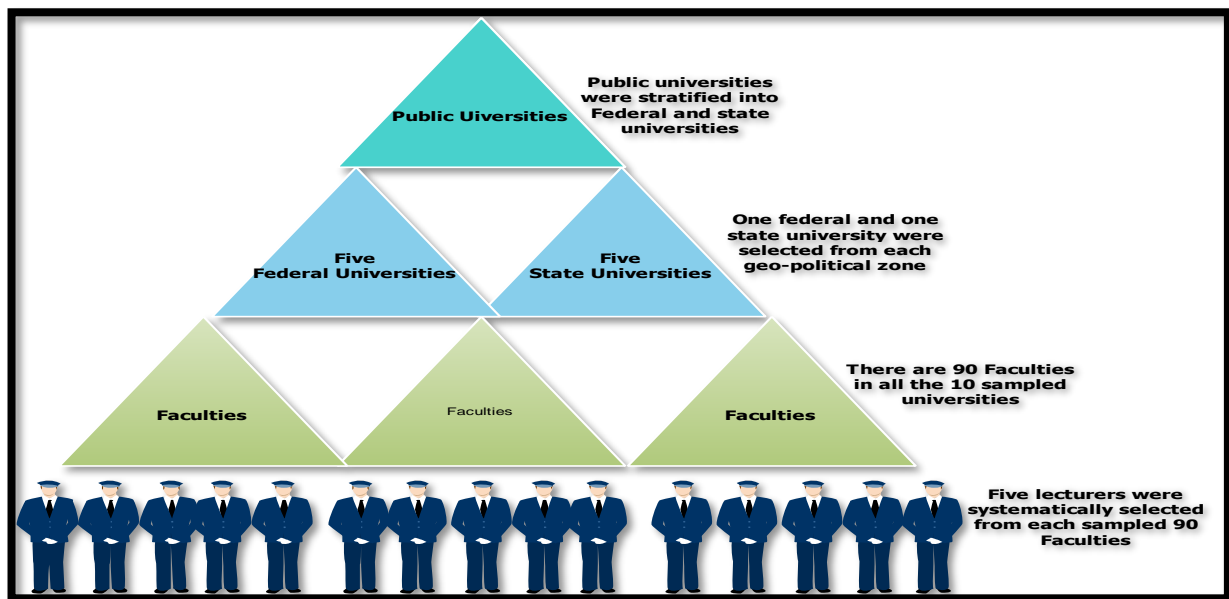

Figure 1 Sampling Technique

3.2   Instrument

There are three instruments designed for this research. These are the Distributed Leadership Inventory (DLI), the Questionnaire on Administrative Process (APQ), and the Questionnaire on Institutional Effectiveness (IEQ). The Distributed Leadership Inventory (DLI), developed by Hulpia, Devos, and Rosseel (2009), consisting of participatory decision-making, leadership roles, and leadership team cooperation, has been adopted. The administrative process questionnaire which has five components: Student Admission process, Staff recruitment process, Policy and Strategy, Supportive Facilities/Environment and Research was adopted from the work of Steinberg, Bringle, and Williams (2010), Ramsden (1991),

Calvo-Mora, Leal, and Roldán (2006) which was validated by Kayode, Yusoff, and Veloo (2016). The institutional effectiveness inventory was adopted from Pihie and Mahyuddin (2008) and FRN (2004).

3.3 Data analysis

Data obtained from the respondents have been screened using the Social Science Statistical Packages (SPSS). The testing was conducted for outliers, non-response biased, multicollinearity and common method variance test. Of the 450 questionnaires administered to the lecturers, only 346 questionnaires returned from which forty-one cases of outliers found were removed, having a total of 305 valid questionnaires, after verifying that they were prominent outliers. In this analysis, multicollinearity and non-response bias weren't a concern. The correct 305 responses were then analysed via Smartpls 3.2.6 using the structural equation modelling-partial least square (SEM-PLS) (Ringle, Wende, & Becker, 2015). The measurement and structural model were then assessed.

4. Results

4.1 Results of the measurement model

4.1.1 Reliability

The measurement items were assessed for reliability using the outer loadings of each construct measures, the Cronbach alpha, and the composite reliability. As shown in Table 1, all the loadings for the respective constructs are above .7 except two items with .681 and .689, which, according to Chin (2010) are acceptable. The composite reliability as shown in Table 1 for all the constructs is between the range 0.892 and 0.962 which are above the minimum value of 0.707 as suggested by (Hair, Hult, Ringle, & Sarstedt, 2014) which shows that the items are reliable.

Table 1 Psychometric properties for the first-order construct

Constructs	Items Coding	Loadings	Composite Reliability	Average Variance Extracted (AVE)
Leadership Function	LF	0.683 - 0.87	0.927	0.646
Participative Decision Making	PDM	0.726 - 0.853	0.908	0.621
Cooperation within the Leadership Team	CLT	0.811- 0.875	0.935	0.706
Student Admission process	STA	0.706-0.853	0.892	0.624
Staff recruitment process	SFR	0.803-0.871	0.928	0.720
Supportive Facilities/Environment	SFE	0.717-0.883	0.928	0.648
Policy and Strategy	PS	0.790-0.868	0.953	0.691
Student Development	STD	0.852 - 0.908	0.962	0.739
Societal Development	SOD	0.706 - 893	0.951	0.685

4.1.2 Convergent and discriminant validity

The factor loadings, as well as the Average Extracted Variance (AVE), was calculated to determine the convergent validity. As indicated in Table 1, all the loadings are above the recommended value of 0.6 by chin (2010). The AVE is between .621 and .739, which exceed the threshold value of 0.5 (Hair et al., 2017). Therefore, the measures have convergent validity in this study. Furthermore, Heterotrait-

monotrait ratio of correlations (HTMT) (Henseler, Ringle & Sarstedt, 2015) were implored to assess the discriminant validity of the constructs.

According to Henseler et al. (2015), the Fornel Larcker criterion and cross-loading may not consider the lack of discriminating validity in most study situations and as such recommends the use of HTMT for assessing discriminant validity. According to Henseler et al. (2015), if the HTMT value is below .90 in two reflective constructs, discriminant validity is said to be established. This study assesses the discriminant validity, as seen in Table 2, and the HTMT value is between 0.355 and 0.873, which is less than 0.90. As such, the HTMT inference criterion shows that all the HTMT values meaningfully vary from 1. Therefore, the measures used in this study are said to attain discriminant validity.

Table 2 Heterotrait-monotrait ratio of correlations (HTMT)

Constructs	CLT	LF	PDM	PS	SOD	SFR	STA	STD	SEF
Cooperation within the Leadership Team (CLT)									
Leadership Functions (LF)	0.598								
Participative Decision Making (PDM)	0.806	0.652							
Policy and Strategy (PS)	0.749	0.529	0.633						
Societal Development (SOD)	0.672	0.435	0.582	0.717					
Staff Recruitment (SFR)	0.748	0.533	0.568	0.758	0.675				
Student Admission (STA)	0.653	0.467	0.600	0.718	0.647	0.830			
Student Development STD)	0.597	0.355	0.458	0.699	0.873	0.637	0.570		
Supportive Environment/Facilities (SEF)	0.796	0.537	0.679	0.854	0.728	0.855	0.753	0.680	

4.2   Assessment of higher-order construct

The three primary variables in this study which are distributed leadership, quality administrative process, and institutional effectiveness were multi-dimensional constructs, and it becomes necessary to evaluate the validity of the second-order construct (reflective-reflective). As revealed in Table 3, the composite reliability varies from 0.892 to 0.953 which is above the verge value of 0.7, and the AVE values are between 0.733 and 0.910 which is also above the threshold value of 0.5. Thus, it suggested that the second-order are valid and reliable.

Table 3 Assessing the Hierarchical Model of Experimental Value for Second-Order Construct

Constructs	Composite Reliability	Average Variance Extracted
Distributed Leadership	0.892	0.733
Administrative Process	0.928	0.764
Institutional Effectiveness	0.953	0.910

4.3   Result of the structural model

The structural model determines the path coefficient, coefficient of determination (R^2), the predictive relevance, and the importance-performance matrix analysis (IPMA). The commonly adopted test to assess the structural model as justified by Hair et al. (2014) is the coefficient of determination known as

R^2 Value and the model fit. The coefficient represents the combined effects of both the distributed leadership and quality administrative process on institutional effectiveness. The result shows that the model is substantial with IE=.681 and QADP, which has a value of 0.349 is considered moderate by Cohen (1988). Therefore, this model can be adjudged to be a good model.

Furthermore, using the Cohen (1988) rule of thumb, where the f^2 value of 0.02, 0.15, and .35 are adjudged small, medium, and large effect size, respectively. The result of the effect size revealed that distributed leadership has no tangible effect on institutional effectiveness amounting to 0.4%, and it has a substantial impact on quality academic process amounting to 128.6%. Also, the quality administrative process has a considerable effect on institutional effectiveness, amounting to 46.4%. Predictive relevance is a test used on an endogenous construct to determine the relative predictive relevance of a predictor construct. The predictive relevance is .331 and .278, which indicated that the diversity of data that can be explained by the model is 33.1% and 27.8% for institutional effectiveness and quality administrative process, respectively. As the value is greater than 0, the model is said to have predictive relevance (See Table 4).

4.3.1 Hypotheses testing

As presented on Table 4, the findings revealed that Distributed leadership is positively and significantly related to the quality administrative process (β= 0.750, p<0.01); Quality administrative process (β= 0.691, p<0.01) was also positively and significantly related to institutional effectiveness explaining 54.9% of the variance while distributed leadership does not have a significant direct relationship with institutional effectiveness. Thus, H2, H3 was supported while H1 was not supported. Having a closer examination of the model revealed that Quality administrative process was the key predictor of institutional effectiveness.

To determine the intervening role of the administrative process; the bootstrapping approach of 5000 resamples was used (Hair et al., 2014). The result indicated that the administrative process significantly mediates between distributed leadership and institutional effectiveness (β= 0.519, p<0.01).

Table 4 Hypothesis testing

Hypotheses	Paths	Path Coefficient	SE	T Statistics	P Values	Result	R^2	f^2	Q^2
H1	DL -> IE	0.064	0.066	0.978	0.164	Not Supported	.549	0.004	0.331
H2	DL -> QADP	0.750	0.031	24.378	0.000***	Supported	.563	1.286	0.278
H3	QADP -> IE	0.691	0.059	11.631	0.000***	Supported		0.464	
H4	DL->QADP->IE	0.519	0.049	10.637	0.000***	Supported			

*** p< 0.01

4.3.2 Importance-performance matrix analysis (IMPA)

According to Hair et al. (2014), IPMA explains as distinctions of cumulative effects and mean latent construct scores (performance) to classify the significant areas for improving management activities or the research model's particular focus. As revealed in Figure 2, the quality administrative process exhibits the highest total effect (importance) of .672 while distributed leadership indicate the highest performance of 58.31% towards the effectiveness of public universities. That is, to enhance university effectiveness, the quality administrative process is more critical while distributed leadership perform

the best role. Even though distributed leadership does not directly influence the effectiveness of public universities in Nigeria; it is adjudged to be more essential in enhancing the performance of the university system.
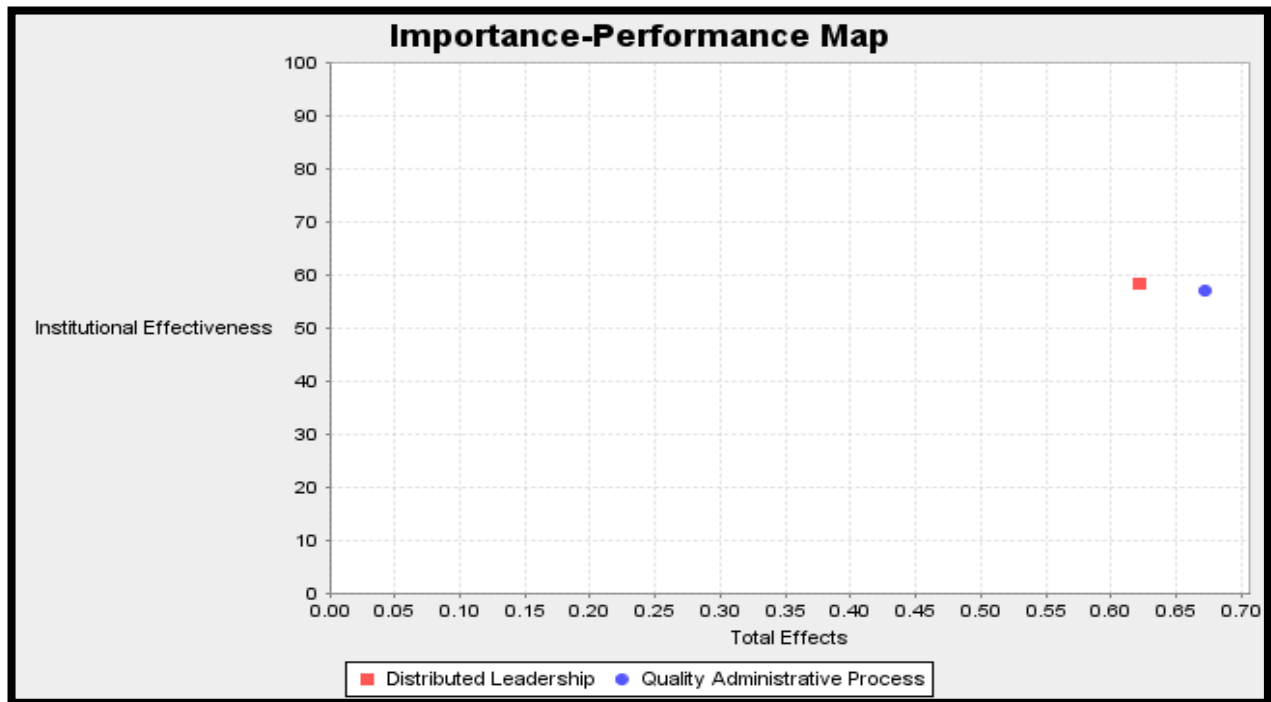

Figure 2 IPMA

5. Discussions

This study was carried out to determine the relationship between distributed leadership, quality administrative process, and the effectiveness of public universities in Nigeria. Four alternate research Hypotheses were formulated and tested.

The first hypothesis was to evaluate the direct link between distributed leadership and effectiveness of public universities. As this study is testing the whole model, the result of the survey shows that distributed leadership has no direct relationship with institutional effectiveness. The finding of this study is also consistent with some few previous studies that found out that distributed leadership is not directly related to institutional effectiveness. For instance, the study of leadership influence on students' achievement some selected schools was carried out by Bruggencate et al. (2012), Ozdemir (2019) and it was revealed that there is no direct relationship between school leadership and students' outcomes. This finding is also in line with Terrell (2010) who studied teachers and principal perceptions of the relationship between the components of distributed leadership and student achievement in urban elementary schools. The findings revealed that there is no significant direct relationship between distributed leadership and student achievement, which is also consistent with the current study by Oldac and Kondakci (2020).

Furthermore, the correlation between distributed leadership and student achievement were examined by Lambert-Knowles (2013). The findings from the study suggested that there was no direct correlation

between distributed leadership activity and student reading achievement. However, as seen on the effect size of distributed leadership on institutional effectiveness which is close to 0, it was rightly said by Preacher and Kelly (2011) that a small effect does not mean that the variable is not essential. Distributed leadership, as shown on the importance-performance matrix, indicated that it is a crucial element that contributes to the enhancement of institutional effectiveness. Though, the contribution as revealed in this study is an indirect contribution which was expatiated by Fitzgerald and Gunter (2006) that distributed leadership allows building professional learning communities (PLCs) where lecturers and student learning can contribute to school improvement.

Furthermore, in the study about changes that occurred in public schools leadership and its effect on student academic success in Canada and the USA discovered that the sustainability of leadership was a key factor leading to a long term change (Christison & Lindahl, 2009). That is, what leaders do in schools, ultimately influences the success that student record, which is indirect efforts. Therefore, the direct relationship between distributed leadership and institutional effectiveness are not significant (Oldac & Kondakci, 2020).

The second hypothesis was formulated to test the relationship between distributed leadership and quality administrative process and is consistent with previous studies (Azim et al., 2019; Dekawati et al., 2020; Koopman, 2006). The findings from this study also support the Koopman (2006) analysis of elementary school teachers ' perception of the principal style of leadership and school climate in the North Dakota public school district, United States. It was uncovered that there is a positive and significant link between principal leadership behaviour and collegial and disengaged teacher behaviour (school climate).

The effect size of this study reveals that distributed leadership has a substantial effect on quality administrative process amounting to 129.8%. This is also evident in the coefficient of determination (R^2) of the quality administrative process, which shows that distributed leadership can explain 56.5% of the amount of variance in the quality administrative process. Moreover, the importance of distributed leadership was also discussed by Wallach (2010), who examined the effect of distributed leadership on decision making in high school conversions. The study adopted a mixed-method drawing from leadership distribution and organisational learning theories to analyse the relationship between distributed leadership and decision making towards successful school reform. The findings of this study suggested that teachers' disparate sense-making can lead to suspicion as well as competition across the school system, thereby resulting in misaligned forms of leadership distribution. Therefore, for the quality administrative process to be implemented in the university system, distributed leadership needs to be effectively practised as this was expressed by Spillane and Camburn (2006) that leaders are expected to nurture an environment where individual members in the school communities are allowed to contribute to the success of the organisation significantly.

Moreover, Seldin (1990) argued that university leaders could enhance quality teaching by providing necessary equipment and facilities and classroom supplies when needed. It is also essential for university administrators to understand when to boost lecturer's morale and correct crucial environmental shortcomings. He, however, concluded that outstanding teaching could only be encouraged when suitable rewards are provided to the lecturers. In order to have an improvement in the university teaching programmes, Martono, Khoiruddin, Wijayanto, Ridloah, Wulansari and Udin (2020); Sady, Żak and Rzepka (2019) stressed that at each stage of the enhancement exercise, there

must be teamwork and cooperation among the lecturers who will put it into action and the leaders who are expected to make available the needed resources. It is, therefore, imperatives for the university leaders in their various capacities to make available incentives for lecturers in terms of salary supplements, equipment, travel grants, as well as promotions to improve teaching and learn in the school.

The third hypothesis, which stated that the administrative process is positive and significantly correlated with the effectiveness of public universities, is supported. This is in line with quite a lot of previous research (Parke & Seo, 2017; Roberts, 2009). The finding of this study has also revealed that the administrative process has a small effect on institutional effectiveness. However, as shown in the importance-performance matrix analysis; the administrative process is vital in enhancing the effectiveness of public universities in Nigeria. It has a critical index value of 3.849 and performance index of 56.98%. In order words, the more the quality administrative process is implemented, the higher the institutional effectiveness. This was consistent with the study carried out by Cardoso et al. (2011) who intends to find out the relationship among teacher-student collaboration, self-confidence, student-student interaction and its influence on students' academic performance. The sample for the study comprises of 2000 Portuguese high school students, and it was revealed in the survey that teacher-student and student-student interaction has a direct and positively influences the performance of the learners, which in turn has direct and positive influences on their academic attainment. In line with prior researches, this study suggested that an appropriate pedagogical interaction and productive learning environment should be enhanced to improve students' learning outcomes.

Moreover, as suggested by Sule and Ugoji (2013), recruitment processes and procedures which help in attracting and retaining the best workers in an organisation influence organisational health which could be ascertained by looking into staffs' contribution to institutional goals and job satisfaction of the workers. Therefore, workers must be well managed by the institution for efficiency, effectiveness, and high productivity. Furthermore, in an effort of measuring the effectiveness of an institution, Ottih (2002) opined that one of the indicators of the system approach is the capability of the institution to obtain limited and valued resources and these cannot be acquired when there are influences on processes and procedures of recruitment. When the best applicant is recognised and positioned on the job, they stay and provide the utmost best in the institution, thereby helping the institution to achieve its predetermined goals.

As stated by Nightingale and O'Neil (1994); Shams & Belyaeva (2019) for quality learning to take place in the school, some conditions are necessary which include: the student to emotionally and intellectually prepared to conform to the learning undertakings required; the students have to see the reason to learn. Other conditions include student link up old knowledge to a new one; student being active in the course of learning, and the school climate should be supportive and conducive for learning. The study of Kgaile and Morrison (2006) that examined the variables that influence school effectiveness in South Africa also perceived staff involvement and interconnectivity as a significant factor contributing to the university's efficiency in south Africa. Therefore, for the university to be active, factors that reflect the quality administrative process in terms of student and staff recruitment, supportive environment /facilities as well as policy and strategy should be appropriately put in place as this directly affects institutional effectiveness.

The fourth hypothesis stated that administrative process significantly intervenes the relationship between distributed leadership and effectiveness of public universities. Using a bootstrapping approach, the hypothesis was tested. The result reveals that the administrative process substantially serves as a mediator between distributed leadership and institutional effectiveness. Therefore, it can be reaffirming that distributed leadership can enhance the quality administrative process and indirectly improve the effectiveness of public universities. Even though many studies have found a direct relationship between distributed leadership and institutional effectiveness (Davis, 2009; Lambert-Knowles, 2013; Ozdemir, 2019; Papademetriou, 2012), there is also evidence in other studies that prove that an indirect relationship exists between school leadership and student learning outcomes (Boberg & Bourgeois, 2016; Robinson et al., 2008).

Many international research studies have observed little, or no significant direct effect of leadership practices on student achievement and; leadership practices have been statistically proven to have a substantial impact on school learning environment's component (Leithwood et al., 2004). This was extended in the study carried out by Cardoso et al. (2011) which revealed a significant and positive relationship between the student learning environment and their achievement. This shows that distributed leadership enhance institutional effectiveness through the quality administrative process. The findings also support Braun et al. (2008) who studied the relationship between essential leadership preparation practices, principal leadership behaviour, school learning environment and, student achievement. The findings from their study show that school learning environment has an indirect relationship between leadership behaviour and student achievement. That is, leadership behaviour has a significant positive correlation in the school learning environment, and the school learning environment also has a strong relationship with student achievement.

Therefore, as argued by Marzano (2003) that the social, economic and political setting where the schools operate is a powerful influence on student development and the importance of school-level practices cannot be underrated as the quality of the teachers and other elements were acknowledged by Darling-Hammond (2007) to have a significant effect on student achievement. This was further buttressed by scholars that distributed leadership in schools provide a sustainable means of enhancing the types of learning focused climate which brings about high-performing school (Heck & Hallinger, 2009; Leithwood et al., 2010). This study, therefore, identified quality administrative processes cum student admission, staff recruitment, supportive facilities/environment as well as school policy and strategy as one of the mediators between distributed leadership and institutional effectiveness.

6. Conclusion and Recommendations

This study reveals the recurrent discussion in leadership literature regarding the form of paths that show how distributed leadership is linked to institutional effectiveness. As indicated in the proposed model in this study, improved effectiveness of university education is achieved by leadership distribution, in part, through a quality administrative process. Therefore, this study test for the mediation effect on the relationship between distributed leadership and institutional effectiveness.

This research work tries to enrich the reviewed literature as well as contribute to school improvement studies, globally, and especially in developing nations like Nigeria. As suggested by Wright (2008), assessing the effectiveness of an institution should go beyond learner achievement, this study attempted to cover this gap by examining institutional effectiveness using goals and strategy approaches through student and societal development. This study has also addressed the research gap identified by Middlehurst (2012), Abdullah (2006), and Krishnan (2013) who suggested that further

research should be conducted to clarify the relationship between distributed leadership and institutional effectiveness.

As revealed in this study that distributed leadership indirectly enhances the effectiveness of the universities; leaderships must be responsive to the contextual characteristics such as, school norms (supportive environment) and organisational processes. These contextual characteristics are used in this study as quality administrative processes which can serve as both an opportunity and constraints for the universities leader towards enhancing the effectiveness of the school.

Even though distributed leadership is seen as a driver for change in the universities' effectiveness effort, this effort may not bring about the desired outcomes if the administrative processes are ignored. Focusing on one without attending to the others may not likely bring about sustainable institutional effectiveness. Therefore, the policymakers should come up with policies to enhance better functioning of the administrative processes and institutional effectiveness. For instance, the admission quota system should be reviewed to cater to more qualified students rather than catchment area and education less developed state. The recruitment processes as well should also be meritoriously carried out to produce the best workforce for societal development.

The findings of this study using the resource base view imply that every member of university staffs should assess themselves by examining the resources they possess in terms of skills, knowledge, competencies, capabilities that make them valuable to their universities more than their colleagues. Also, it is high time; every member of staff in the university system to stop blaming the management for the university ineffectiveness as their roles in the school affect the outcomes of the university system.

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