



IMPACT OF MANAGEMENT CONTROL SYSTEM ON THE QUALITY OF TEACHING IN NIGERIAN PUBLIC UNIVERSITIES

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Abstract

Quality of teaching of a given institute of learning can be linked to effective use of management control techniques by the management. Given the persistent report of poor quality of teaching in Nigerian Public Universities, despite the existence of management control system, this study examined the effects of management control system on the quality of teaching of federal universities in south western Nigeria. The study adopts a mixed method research design (Quantitative and Qualitative). Questionnaire was used to obtain data from 231 respondents that are selected through multistage sampling technique for quantitative while 5 respondents purposively selected for qualitative data. Data were analysed using PLS-SEM while the Qualitative data also analysed thematically with NVIVO. Result control has positive effect on the universities performance with P-value 0.000, and $\beta = 0.737$ on teaching performance. Action control is significantly related to universities performance with P-value 0,001 and $\beta = 0.593$ for teaching performance. Personnel control ($\beta = 0.011$; $t = 0.247$; $p > 0.05$), also, found positively and significantly affect the quality of teaching in south-western public universities, Nigeria. The study therefore concluded that management control system is an essential tool for performance attainment through the teaching quality in Nigeria public universities. The study recommended that the universities should intensify efforts on effectiveness of the management control system, while the government should increase the funding and appraise the regulations in attempt improve the performance.

Keywords: Control System, Management Control, Result Control, Personnel Control, Teaching Quality

INTRODUCTION

Quality of education accessible to the masses has a direct impact on the economic, political, and other developmental facets of any nation across the globe. Universities provide the apex form of education as they are established to make fundamental contributions to the nation's growth by producing a professional workforce and leaders, providing jobs for the masses, and driving the economy efficiently. Management and administration of public universities in Nigeria have also witnessed some reforms like other public sector



organisations in Nigeria. All these reforms aim to ensure the attainment of targeted objectives through optimum performance (Mahmud, 2020).

Personnel is the most important asset in the education industry, expectedly, they are to be appointed in line with best practices where the best persons is hired. Given such performance in Nigeria public universities presently, it seems recruitment of staff is not based on merit; as it is the case of all other public sectors in the country. Recruitment of academics is on thumb rules of political favours, which lead to the appointment of less qualified candidates. Moreover, the employed are far lower than the numbers required (NUC, 2017).

Despite the heavy workload, the staff is not adequately rewarded in terms of remunerations and conducive facilities. This led to an exodus of brilliant hands to foreign countries. Babalola and Oni, (2021) argued that Nigeria's public universities are unable to compete with their foreign counterparts in recruiting the most qualified personnel who are Nigerians. They attributed it to lop-sidedness in appointments of key university's heads and decisions being made from outside the university, eroded meritocracy, growing nepotism, godfatherism, and political patronage. Therefore Nigerian universities are perceived to be competing in the academic world with less qualified personnel, inadequate and less motivated against the world brilliant teachers inclusive of her own finest brain.

Therefore, appraisal of management control technique on the quality of teaching in the public universities gives a guide on how to achieve the goals and objectives of the public universities establishment with ease and at least cost. The ultimate concern of every management is to be 'in control' instead of controlling people. Therefore, this study enhances goal-oriented and efficient management in Nigeria public universities. This study indicates the influence of the management control system over the performance of academia through the exposition of controls elements and explanation of how each of these control categories is to be applied.

Research Questions

The following research questions were considered pertinent to the study:

- i. In what way does personnel control affect teaching quality of south-western public universities in Nigeria?
- ii. How does result control affect the teaching quality of south-western public universities in Nigeria?



LITERATURE REVIEW

Management Control System

The goals of a management control system, according to Andrew, (2018), are to communicate the organisation's goals, ensure that managers and employees understand the specific actions required of them to achieve organisational goals, communicate action results across the organisation, and ensure that managers can adjust to changes in the environment. A precise control system unifies an organisation's various activities and achieves its overall aim. In other words, a control system is intended to bring harmony to an organisation's many activities and direct its efforts toward predetermined goals.

Merchant and Van der Stede, (2007) developed the object-of-control framework. The four objects of control in this paradigm are results, action, personnel, and cultural controls. The impacts of employees' actions, such as created products or serviced clients, are monitored by results controls. Employees have discretion in taking steps to achieve these outcomes, making these controls suited for employee empowerment and decentralisation. Action controls, on the other hand, are more appropriate when desired results are difficult to identify and the organisation has a sufficient understanding of the procedures that lead to the intended results. Behavioural limitations and behavioural standards, such as procedures, are examples of these controls (action control).

Furthermore, businesses frequently require personnel control methods such as job design, recruitment procedures, and training facilities, all of which strive to ensure that employees are capable and motivated to accomplish their jobs. Finally, there are cultural controls, which are intended to encourage employees to share specific beliefs and values, can be relevant. Needs such as achieving and maintaining social identity through the acceptance or approval of others, emotional affiliation through intimacy, addressing biological needs that sustain the body, and others have been experimentally stated (Berend, 2016; Berend et al., 2018; Frey et al., 2013). All of these demands may have an impact on people's attitudes and conduct at work.

Management Control System (MCS) is a logical integration of techniques and procedures, to planning and control decisions in an attempt to motivate employees to the right behaviour and to evaluate performance (Baid, 2017; Berend, Paula, & Henk, 2018; Filali & Hassainate, 2018; Wangari, 2017).

From a managerial standpoint, people's attitude to work is essential to productivity and subjected to motivation. Motivation is primarily concerned with achieving optimal levels of productivity. In this context, the specific links between worker satisfaction and



production are unknown. Meanwhile, studies focusing on performance assessment occasionally examined the relationship between "results control" and "motivation" (Berend, 2016; Berend et al., 2018; Franco-Santos, Lucianetti, & Bourne, 2012; Frey et al., 2013).

Self-endorsement has long been acknowledged as the "sacred spark" underlying academic research, with certain empirical investigations establishing ties between researchers' productivity and motivation (Berenda, 2016; Sutton & Brown, 2014). However, psychology theory implies that the overt exercise of control might reduce autonomous motivation in both intrinsic and extrinsic forms. According to Berend et al., (2018), the individual is the focal point of management control, i.e. inspiring an employee to accomplish the work as intended.

As a result, the focus of this research is on individuals (academics and non-academics) and, more specifically, the impact of various types of MC in a public sector organisation on university staff motivation. In addition, this research evaluates the MCS implemented at Nigeria Public Universities, as well as the impact of the controls on academic and non-academic motives, as well as universities performance. The study revealed what influence a loss of MCS would have on the performance of Nigerian public universities staffs, as well as how academics and non-academic staff would react to excessive MCS practices about their performance.

University Performance

Ranking is the order of the day in nearly every aspect of human activity. Academic assignments at universities are not exempted, the fore most question is how significant is college ranking and whether or not they're presently being utilised in a biased or naïve manner. There are big variations in overall performance amongst universities from the rating effects offered so far (Mukiyanto et al, 2020). Thus, the common sense of college rating appears appropriate: It allows a college's overall performance in comparison to others. Indeed, college scores are proliferating. Apart from the most famous ones consisting of the Times Higher Education (THE), and Quacquarelli Symonds (QS) ranking, at the least 30 different ranking platforms exist (Koen, Gaston & Jarno, 2017). Although there are disagreements on which data, method, and interpretations are perceived as robust. The worldwide college rating or ranking scheme is right here to stay. With college students and lecturers dealing with extra alternatives and opportunities, the existence of those scores has heightened opposition internationally and governments are paying nearer attention, even making use of scores to decide policies.



There have been conflicting opinions about performance measurement that should be adopted by universities around the world. Some scholars believed that performance assessment should only consider study-related coursework; In meantime, some scholars have said it is important to measure student-related academic achievement and non-student-related academic achievement (Ball & Wilkinson, 1994; Higgins, 1989; Hilman & Abubakar, 2017; Johnes & Taylor, 1990). Student's related academic achievement includes student academic status, grade levels, and graduation rates as indicators for evaluating college performance (Ball and Wilkinson, 1994; Higgins, 1989; Hilman & Abubakar, 2017). Johnes and Taylor, (1990) said student wastage should be considered. Agha (2007) Lee & Buckthorpe (2008), Sall (2003), and As if, Raouf, and Searcy (2012) also emphasise wastefulness and dropout rate of students, while Asif and Raouf (2013)), Kells and Mundial (1992) and Pinilla and Muñoz (2005) expanded this graduation rate as a variable for evaluating university performance.

Sailesh and Saleh, (2021) Maintaining that pristine intention of the Ranking is to sell instructional internet presence, fortifying the Open Access projects for incrementing notably the switch of scientific and cultural consciousness engendered through the universities to the public. To attain this objective, the notification of ratings is one of the maximum puissant and rich implements for beginning and consolidating the techniques of vicissitude within the academia, growing the scholars' dedication, and organising the ever wanted long time strategies.

Webometrics additionally said that they intend to encourage each university and scholars to have an internet presence that replicates as it should be their activities. The predicted overall performance index are the research efforts, quality of teaching, and impacted undertaking of the universities for the community. This study appraises the overall performance of the university's employees on the three said output of the universities (Research efforts, Teaching quality, and Community development services) which are the primary goals of establishing the higher institute of learning in Nigeria as enshrined in Nigeria Education Act.

Quality of Teaching

Teaching quality may be a complicated term and multifarious, delineated by the various words in numerous cultural environments in different academic settings resembling efficiency, effectiveness, equity, and quality synonymously (Ako, 2018; Sahito & Vaisanen, 2018). Teaching quality may be assessed in a variety of ways and needs to address a good mixture of presage, method, and merchandise factors. Utilization of various words for one keyword quality provides the distinctive platform to agree on the rudimental



dimensions of quality education to know the definition and development in divergent views with mundane understanding.

Sahito and Vaisanen, (2018) expressed that quality education consists of the participation that revolves around the learners, environments, contents, processes, and outcomes. wherever learners, are to be salubrious, well-alimented and yare to participate; the healthy, safe, protecting, and gender-sensitive environments might offer adequate resources and facilities; the content, mirrored within the curricula and resource materials for the acquisition of rudimental cognizance and skills; the processes rely upon the knowledge base of the edifiers to utilize child-centered edifying approaches; whereas the outcomes cover cognizance, skills, and postures for personal and national growth and development. Therefore, teaching quality needs to be deliberately addressed in all aspects to enhance the universities to systematically and consistently triumphant in producing graduates with qualifications and skills that are valued by society, students and support them within their post-study aspirations. it's necessary to notice that teaching quality is concentrated on supporting individual students with success through their studies and into triple-crown future lives and careers, the outcomes are essentially viewed in broader terms of the proportion of graduates that stay in degree-level employment and/or use the talents and information relevant to their qualification. This indicates teaching quality has could be a model of product quality in the merchandise manufacturing firms, It relates to the product life.

Asiyai (2013) outlined quality of teaching as a measure of how virtuous or unhealthy the product of higher education establishments in the Federal Republic of Nigeria are, in terms of their academic performance and meeting established standards. The Quality of education is recognized because of its contribution to national development, property livelihoods, and individual capabilities (Hanushek & Woessman, 2007; Bangay& Blum, 2010; Tawil, Akkari & Macedo, 2011). Meanwhile, OECD (2010) reports maintained that quality teaching should be thought of dynamically, in light of discourse shifts in the expectations from the higher institute of learning. Studies are getting internationalized, and better education is being asked to contribute to early areas (such as innovation, civic and regional development) to engender a congruously masterful workforce to satisfy the challenges of the twenty-first century. This indicates quality teaching is highly required from our universities in a bid to deliver the conceived objectives.

Ossai and Nwalado, (2017); Asiyai, (2013) declared that ten (10) distinct factors militate as challenges to the quality of teaching in the Federal Republic of Nigeria's higher institutions of learning. The factors are Inadequate Funding; Poor Policy Implementations;



Inadequate use of Information and Communication Technology; Inadequate teaching workers /poor quality of teaching staff; Frequent labor disputes and closures of universities; Lack of resources; Lack of vivacious workers development programs; Poor leadership; Brain drain; Cultism and other vices.

In the recent decades, some bureau for quality assurance in a higher institute of learning introduced strategies for achieving effective and good teaching and assessment in higher education, as the needs of students, the state, employers, and other stakeholders pressured the universities to embrace overall responsibilities (Sailesh and Saleh, 2021). The goal of high-quality teaching in line with OECD (2009) is to encourage the instructor to apply the best teaching practices and consequently improve and enhance the best possible student learning (Katrina, 2016). It is worth noting that no reforms or scheme will achieve the required result if the employee (academics) is not incentivized and face no established controls to influence their work positively; which remains the core value of the management control system.

Contingency Theory

Contingency theory was expounded and popularized by Hofer in 1975. Hofer declared that “any theory of business (corporate) strategy must be a contingency theory” He maintained that contingency theories have implications for improving enterprise productivity through the strategic choices undertaken by the business executive (Kald et al., 2000). Contingency theory is another important subset of research within the mainstream positivist approach with the primary focus of identifying variables that are correlated with high organisational performance (Otley,1980; Briers & Hirst, 1990; Sheilds & Sheilds, 1998).

The contingency theory falls into the class of behavioural theory which explains that there is no single best way of organizing or leading and that organisational or leadership styles which are successful in one situation might not be successful in another (Fiedler, 1964), where the optimal means of organisational or leadership styles are contingent upon different internal and external constraints. Contingency theory is formulated around four main subordinating ideas, which are;

- a). There is no single best way to manage a situation
- b). The design of an organisation and its subsystems must 'fit' into its environment
- c). Effective organisations have proper 'fit' not only between the environments but also between its subsystems
- d). The requirements of an organisation are better satisfied when the organisation is properly designed and the management style is appropriate both with the tasks undertaken and the nature of the workgroup.



Tiessen and Waterhouse (1983) expanded view of contingency theory is that the structure of an organisation depends on the company's technology and environment and the effectiveness of the management accounting system is contingent on the organisation's structure. More also, Chenhall, (2003) discusses contingency theories from a functionalist perspective where the assumption is that management control systems are developed, or adopted to aid in achieving desired organisational goals and outcomes. The appropriate management accounting system is contingent on the external environment, technology, organisational structure, organisational size, organisational strategy, and national culture. Contingency theories conceptualised the fit between certain contextual factors and variables like organisational structures, leadership styles, or accounting systems which has significant effects on organisation performance (Lorsch, 1967; Fiedler, 1967; Otley, 2016).

Contingency-based MC assumes that rather than a “universal” MC concept irrespective of its context, the content of MC has to match with a varying context as operationalized by one or more contingency variables. Contingency variables in MC research include the external environment, technology, organisational structure, strategy, and culture (Chenhall, 2003; Otley, 2016). These contingency variables can be linked to several MC issues, varying from more or less traditional MC issues, such as budgets and PMSs to contemporary MC issues like the balanced scorecard and value-based management. Contingency variables can also have a more specific focus, such as budget participation or performance information for rewarding, and, additionally, MC issues beyond the domain of management accounting can be addressed, such as personal and cultural controls (Chenhall, 2003).

Contingency theory posits that the performance of the company depends on the alignment of a different organisational factor in a given business situation (Chenhall & Langfield-smith, 1998; Antonio, Daniel, Domingo & Julio, 2016). This theory is based on the premise that there is no universally appropriate accounting system for all organisations in all circumstances. This means that efficient organisation accounting and control system varies with organisational contextual factors such as strategy, technology, and environment (Antonio et al, 2016). However, Chenhall, (2003) maintained that in any given organisation, effective MCS supports organisation managers to achieve the enterprise objectives when the external environment influence is not stronger than the internal techniques. This view was corroborated by Antonio et al., (2016) when he stated that alignment of different variables such as technical accounting control has a lot of impact on business performance.



Donaldson, (1999) also stated that contingency theory can be used as a framework in seeking to identify the influence of contingent variables on organisations' performance. Broadly, this contingency includes any variable that moderates the effect of an organisational characteristic on its performance. Contingency theory is seen as a theory of theories. That said, a common denominator underlying all strands of contingency theory is the proposition that organisational performance is dependent (i.e., contingent) upon the fit between an organisation and several factors, some of which are technology, structure, people, strategy, and organisational culture (Ganescu, 2012; Raymond, 2016). The central tenet of contingency theory is that organisational performance hinges on the alignment with internal and external contingent factors. i.e. $\text{Organisational Performance} = f(\text{MCS} \& \text{External influence})$. In this equation, f is the functional form of the statistical distribution that relates organisational performance to management control systems (MCS) and business strategy; hence, f means "depends on" or "contingent on." The study hereby presents Contingency theory as the grounded theory for this study.

Empirical Review

Heinike and Guenther (2019) investigated the mediating role of MCs in the relationship between structural autonomy, research, and teaching performance in higher education institutions and by comparing the perceptions of two major actors: heads of administration and academic deans. The study use survey data of two paired subgroups with 104 heads of administration and 104 academic deans and perform a multi-group analysis with structural equation modeling. The study found that MCS is significantly associated with both groups and improves their performance.

In the United Kingdom, Mark (2020) critically reviews performance management in higher education concerning balanced scorecards. Using in-depth interview sessions with academia on their perspectives of stakeholders, internal, organisational, and financial capacity; the study revealed BSC is an effective tool for assessment of institutional performance and productivity of individual employees.

Also, Laura (2021) evaluates the teaching performance in United States of American Universities concerning the student evaluations of teaching (SET). Findings indicate the essentiality of the management control system on performance achievement and appraisal. The study discovered that behavioral control such as the use of established culture, results, and actions approach have a robust impact on teaching performance in the USA universities.



Zbysław, Józef, and Monika (2021), examine the adaptability of management controls in Poland public universities. Findings of the extensive qualitative study revealed a need to develop and implement management an effective management control system as a means of assessment of employees on issues that are potentially radical. The Study concludes that decision makers of the university should change their current approach to management control systems to avoid poor outcomes in different levels and areas of university activity. Paweł & Dmytro (2019) examines the effect of management control systems on the effectiveness of public cultural institutions in the context of an emerging economy. Data were gathered from 57 institutions in Poland. Analysis of data indicates the difference in the organisations management controls adoptions. While some have efficient control practice which is significantly related to their revenue generation, those with flexible controls are not efficient in their financial operation. The study concludes that the implementation of an efficient management control system enhances the effectiveness of cultural institutions and the fulfillment of their mission.

In Portugal, Wendy, Carraro & Carlos (2019) review the possible combinations of management control elements that are likely to lead to optimum performance. 45 entrepreneurs were interviewed and analysed with fuzzy Qualitative Comparative Analysis (fsQCA) methodology. Findings revealed that management controls are required for clients' management, organisation strategy, Performance, Risks, and Budget monitoring. The study concludes that the combination of management control elements contributes to the success of the organisation's strategic practices. Furthermore, the use of management control is a priority for any organisation that wishes to cope with the challenges, uncertainties and ensure sustainable growth.

Ozor, (2015) investigates the effect of internal control systems on the management of organisational resources in the manufacturing sectors of Nigeria. The study concentrates on the control function and working capital management. Data collected from 246 respondents were subjected to Pearson Product Moment Correlation Coefficient and the simple regression analysis. Findings revealed control is highly implemented in the Nigeria Manufacturing industry and the use of internal control ensures efficient management of working capital.

Sa'id, (2010) appraised the impact of the management control system on the performance of Nigeria's public sector, using the Nigeria State Company (NSC) as a case study. Data were gathered through a triangulated approach. The interview was conducted with various members of staff of the NSC from different hierarchical levels. Policymakers, consultants, Nigerian privatization agency staff, and oil industry regulators were the respondents. The



study found that MCS has the potentials to change the orientation of public sector managers towards managerialism, enhance efficiency and effectiveness as it encourages transparency and accountability. While various MCS were introduced as part of the reforms, the study found that very often these MCS have become subordinated to political control. Thus politics rather than economic criteria (MCS) dominated decision making in Nigeria's public sector organisations.

Also, Nicolas and Benjamin, (2018) analysed how two public organisations have implemented management control systems. The study pointed out that both public organisations studied have developed a complex set of practices around their management control systems. The study concluded that despite some initial stages of apparent failures, the implemented systems are not merely myths about the running of public organisations, but instead produced some unanticipated effects.

METHODOLOGY

Model Specification

This study adopts a regression model of Baid, (2017) to establish the effect of management control system on the performance of Nigeria public Universities. The models were specified as follows:

$$TQP = f(PC, CC, AC, RC)$$

$$TQP_i = \alpha + \beta_1 PC_i + \beta_2 CC_i + \beta_3 AC_i + \beta_4 RC_i + \mu_i$$

Where:

TQP = Teaching Quality Performance (*Dependent Variable*)

PC = Personnel Controls (*Independent Variable*)

CC = Cultural Controls (*Independent Variable*)

AC = Action Controls (*Independent Variable*)

RC = Result Controls (*Independent Variable*)

Population and Sample Size

The data screening was done using statistical packages for social sciences (SPSS), whereas the testing for the relationship was carried out using structural equation modeling (via SmartPLS3.3.3 software). An aggregate of 239 questionnaires was distributed to heads of administration and academics in the federal universities in the south-western geopolitical zone of Nigeria. This was done in an attempt to ensure the sample size of 239 was achieved. As a result, 236 copies of questionnaires were returned which represent an 98 % response rate. However, out of these 236 questionnaires that were returned, a total of 231 were usable for data analysis.



RESULTS AND DISCUSSION

In an attempt to have a credible result, some preliminary tests were carried out on the study. The tests are normality tests and tests of multicollinearity.

Table 1: Full Collinearity Test

Variable	AC	CC	PC	QT	RC
Tolerance	0.390	0.453	0.533	0.385	0.366
VIF	2.563	2.205	1.875	2.595	2.732

Author’s computation, 2021

The result, as shown in Table 1, showed that the variance inflation factor (VIF) of all the variables were below the 3.30 threshold. This indicates no problem of multicollinearity therefore, once again, common method bias is not an issue for this study’s data.

Assessment of Reliability

Reliability test of the indicator and reliability of the construction performed for the study indicates that most of the indicators for this study loaded above 0.708, except for some items as indicated in the notes on table 4.10, although, some of the items were not deleted because their AVEs and CRs are already beyond the recommended thresholds. According to Hair et al. (2016), item indicators outer loadings should be 0.708 or greater. However, loadings between 0.4 and 0.7 should be considered for removal only if the deletion leads to an increase in average variance extracted (AVE) and composite reliability (CR) above the suggested threshold value.

Table 2: Summary of the Construct Loadings, Convergent Validity and Reliability

Constructs	Items	Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
Action Control	AC1	0.750	0.810	0.517
	AC2	0.654		
	AC5	0.726		
	AC6	0.741		
Cultural Control	CC1	0.722	0.846	0.526
	CC2	0.745		
	CC3	0.684		
	CC4	0.758		
	CC6	0.715		
	PC1	0.693		
PC2	0.707			



	PC3	0.689		
	PC4	0.759		
	PC5	0.731		
	PC6	0.677		
Teaching Quality	QT1	0.748	0.863	0.514
	QT2	0.620		
	QT3	0.738		
	QT4	0.637		
	QT5	0.737		
	QT6	0.808		
Result Control	RC1	0.713	0.833	0.513
	RC2	0.794		
	RC3	0.762		
	RC4	0.756		
	RC6	0.523		

Note: AC2, CC3, CS5, CS6, PC1, PC3, PC6, QT2, QT4, RC6, RI3, RP6 were not removed because their AVE is already beyond the recommended 0.50 threshold

Author's computation, 2021

Similarly, the Composite Reliability (CR) test assesses the consistency of the measurement items, and this technique is more suitable for PLS-SEM than Cronbach's Alpha (Hair et al., 2016). All constructs have their CR above 0.7. Therefore, CR is confirmed satisfactory. Convergent validity is the extent to which a measure correlates positively with alternative measures of the same construct. The convergent validity for this study was established using the Average Variance Extracted (AVE) obtained from the SmartPLS 3.3.0 algorithm as suggested by Hair et al. (2017). To prove that the latent variable explains more than half of its indicator's variance, Hair et al. (2017) suggested that an AVE value of 0.5 and higher should be achieved. Therefore, all the constructs' AVE values were greater than the 0.5 minimum threshold for this study.

Assessment of Validity

To evaluate validity of the model, discriminant validity and validity of the contents are critical. For the purpose of validity of the contents, the research instrument was presented to academics and professionals for evaluations to ensure the instrument adequately represent all the universe of the study. For the test of discriminant validity, the



FornellLarcker criterion and the Heterotrait and Monotrait (HTMT) criterion were employed. The result of the two methods is presented for this study. The Fornell Larker method on table 4.11 compares the square root of the AVE values with the latent variable correlations. Specifically, the square root of each construct’s AVE should be greater than its highest correlation with any other construct (Fornell & Larcker, 1981).

Table 3:FornellLarcker Criterion for Discriminant Validity

	1	2	3	4	5
1	0.719				
2	0.622	0.725			
3	0.636	0.564	0.710		
4	0.588	0.602	0.471	0.718	
5	0.630	0.627	0.510	0.736	0.716

Note: 1=Action Control 2= Cultural Control 3= Personnel Control 4= Teaching Quality 5= Result Control

Author’s Computation, 2021

According to the criteria of fornell-Lacker (1981), the latent variables should explain the variance of their own manifest variable instead of variance of the other latents variables, therefore, the mean of value of the extracted variance (AVE) of the latent variable must be greater than the squared correlation of the latent variables (LV) with all other variable. This condition requirement is said to be met if, for each of the column value in the diagonal are the highest. Table 3 shows that the highlighted values on the diagonal are the highest to a greater extent.

Using the Heterotrait and Monotrait (HTMT) ration of correlation to verify the discriminant validity further, Table 4 shows the result the heterotrait-monotrait (HTMT) of the study.

Table 4: HTMT Criterion for Discriminant Validity

	1	2	3	4	5
1					
2	0.842				
3	0.848	0.702			
4	0.755	0.747	0.582		
5	0.841	0.790	0.647	0.734	

Note: 1=Action Control 2= Cultural Control 3= Personnel Control 4= Teaching Quality 5= Result Control

Discriminant validity was verified using this new procedure, and results indicated in table 4 are below the suggested threshold of 0.90 of Henseler et al. (2015); if the path model includes constructs that are conceptually very similar, like this study. The result for the

HTMT test shows that every value was below 0.90. Hence it can be concluded that the HTMT values of constructs were valid and satisfactory.

Path Coefficients Results

This was formulated to assume that the independent variables will not predict teaching quality performance of university. As presented in Table 4.15 and Figure 4.4, the result showed that all relationships were significant. It can also be observed from the results for the model 2 that result control has the strongest effect on research performance ($\beta = 0.503$; $t = 7.816$; $p < 0.001$), followed by action control ($\beta = 0.154$; $t = 2.427$; $p < 0.05$), cultural control ($\beta = 0.145$; $t = 2.273$; $p < 0.05$) and personnel control ($\beta = 0.116$; $t = 2.991$; $p < 0.05$).

Table 5: Hypothesis Testing

	B	Std Error	T-Value	P Values	Confidence Interval	
					2.50%	97.50%
AC -> QT	0.154	0.063	2.427	0.008	0.049	0.251
CC -> QT	0.145	0.064	2.273	0.012	0.049	0.251
PC -> QT	0.116	0.039	2.991	0.001	0.048	0.172
RC -> QT	0.503	0.064	7.816	0.000	0.385	0.594
R ²	0.601					
F- statistic						
AC -> QT	0.289					
CC -> QT	0.587					
PC -> QT	0.593					
RC -> QT	0.789					

Source: Author’s Computation, 2021

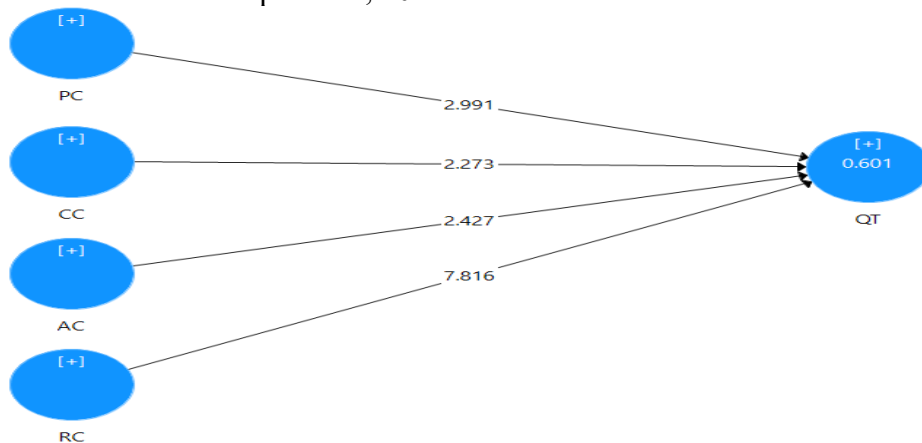




Figure 1. Structural Model for Model 2 (M2)

Figure 1 presents the relationship between quality of teaching and management control elements in the study. The figure reveals the t- value on the line with an R square of 0.601. This result revealed that 60% of the total variance for teaching quality performance is being predicted with Model 2 (M2). This R-square is classified as moderate as stated by Hair et al (2017) threshold.

As displayed in Table 5, the result shows that action control has medium effect on teaching performance while personnel control, cultural control and result control have large effects on the quality of teaching performance; based on the recommendation of Cohen (1998).

Discussion of Findings

The responses obtained provided evidence that personnel control is provide evidence that personnel control is significantly related to the quality of teaching of selected public universities in the south-western Nigeria. All the statistical result indicates the existence of personnel control in the sampled universities. Personnel control has the strongest effect on teaching quality. Findings are in support of the study a-prior expectation. The personnel control relating significantly to quality of teaching confirmed the link between school performance and policies relating to selection and placement, job design, providing required infrastructural resources and training of teachers (Academics).

These policies are part of the construct of under the ambit of personnel control. Some empirical studies (Baid 2017, Heinicke and Guenther, 2019) have found a positive correlation between teachers' experience and students' academic outcomes. Children who are taught by ineffective teachers for years continuously have been found to achieve relatively lower scores than those who were taught by highly effective teachers.

In order to address the role of result controls on quality of teaching, the question focused on the employee's output activities control techniques. The responses obtained provide evidence that result control is significantly related to the quality of teaching of selected public universities in the south-western Nigeria. All the statistical result indicates the existence of Result control. This is to say for every increment in efficiency of the result control there will be corresponding effects on the teaching quality. The finding supported the a-prior expectation of the study and consistent with previous studies like Berend, (2016); Baid (2017); Strauss & Zecher (2013).

CONCLUSION AND RECOMMENDATIONS

The findings of the study indicate substantial numbers of roles performed by the management control system, explained the variations of control constructs and



performance in the selected public universities in the south-western Nigeria. In view of the reported findings, the study concluded that personnel control techniques affect the performance of public universities positively. This shows that as the universities continue to employ the most qualified personnel, providing the on job training; maintaining the workloads; ensure efficient lecturer to student ratio and adequate remuneration are being paid to the employee, there is tendency of improved performance.

Based on the findings and conclusions of the study, the study made following recommendations for the improvement of the performance of Nigeria public universities as related to management control system.

- i. Personnel control was found to be strongly affecting the universities performance in the study. Therefore the study recommends that the management should ensure that control process to recruit, train, compensate and other personnel management task are more effective in way to motivate the employee to do more. Having a shortfall from what is obtainable now will have negative influence on the performance while the positive will enhance quality performance.
- ii. Result control remains the most significant control techniques on the performance of universities. Having more of it will only leads to more performance. If the management of the selected school want to improve their performance ranking, improve on their efforts of result control will significantly increase the pace. This control measure is capable of motivating the academic if properly implemented.
- iii. Government needs to respect the university autonomy by restraining her political or official from undue influence on the university's affairs. More also, enacting of policies that will enhance the management control system is also required.

REFERENCES

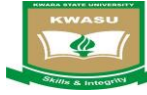
- Agha, K. (2007). Key performance indicators: A successful tool for performance management in the education industry in the Sultanate of Oman. *India Management Journal, New Delhi, 1(3/4) 73-96.*
- Ako, A. (2018). Pacific tertiary education forum 2018.Proceedings from Victoria University of Wellington conference.
- Amabile, T. M. (1997). Motivating creativity in organizations: on doing what you love and loving what you do. *California Management Review 40, 39–58.*
- Andrew O. (2018). University-Community Engagement in Nigeria: Evidence from Selected Universities. *Mediterranean Journal of Social Sciences.9 (5), 29.* (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).ISSN 2039-9340 (print).
- Asif, M., Raouf, A. & Searcy, C. (2012). Developing measures for performance excellence: Is the Baldrige criteria sufficient for performance excellence in higher education?. *Journal of Quality & Quantity.47(1), 115- 132.*



- Asiyai, R. I. (2013). Challenges of Quality in Higher Education in Nigeria in the 21st Century. *International Journal of Educational Planning & Administration*.3, (2), 159-172.
- Baid, D. (2017). A Study of Management Control Systems (MCS) and School Performance. *Metamorphosis*, 16(2), 92–106.
- Ball, R., & Wilkinson, R. (1994). The use and abuse of performance indicators in UK higher education. *Higher Education*, 27(4), 417-427.
- Bangay, C. & Blum, N. (2010). Education responses to climate change and quality: Two parts of the same agenda. *International Journal of Educational Development*, 30 (4), 359-368.
- Berend, V. D. K., Paula, M.G., Van, V.D. & Henk, J.B. (2018). The Impact of Management Control on Employee Motivation and Performance in the Public Sector. *European Accounting Review*.28 (5), 901-928.
- Berend, V. K. (2016). Management Control, Motivation and Performance: An Empirical Analysis of the Object-Of-Control Framework. PhD Thesis in Accounting. *University of Groningen, The Netherlands*.
- Briers, M. and Hirst, M. (1990) The Role of Budgetary Information in Performance Evaluation. *Accounting, Organisations and Society*, 373-398.
- Cole, J. R. and Cole, S. (1973). General - Social Stratification in Science. Chicago and London: University of Chicago Press.
- Fielder, F. E. (1964). A contingency model of leadership effectiveness. *Advances in Experimental Social Psychology*, 1(1), 149-190.
- Filali, Y. & Hassainate, M. (2018). The Contribution of Management Control to the Improvement of University Performance. *Journal of North African Research in Business*. 2018. Accessed online.
- Fox, D. (1983). Personal Theories of Teaching. *Studies in Higher Education*, 8, 151-163. <http://dx.doi.org/10.1080/03075078312331379014>.
- Franco-Santos, M. Lucianetti, L. & Bourne, M. (2012). Contemporary performance measurement systems: A review of their consequences and a framework for research. *Journal of Management Accounting Research* 23, (2)2012, 79-119.
- Frey, B.S., Homberg, F. & Osterloh, M. (2013). Organizational Control Systems and Pay for Performance in the Public Service", *Organization Studies*. 34 (7), 949-972.
- Hanushek, E. A. & Woessmann, L. (2007). The Role of School Improvement in Economic Development.
- Heinicke, X. & Guenther, T. W. (2019). The Role of Management Controls in the Higher Education Sector: An Investigation of Different Perceptions. *European Accounting Review journal*.



- Higgins, J. C. (1989). Performance measurement in universities. *European Journal of operational Research* 38(3), 358-368.
- Johnes, J., & Taylor, J. (1990). *Performance Indicators in Higher Education*. Buckingham: Society for Research into Higher Education & Open University Press.
- Katarina, A. (2016). Teaching excellence and qualifications of academic staff in the context of quality in higher education. *Center for Educational Policy Studies Journal* 6, (4), 141-161.
- Kells H. R., & Mundial B. (1992). Performance Indicators for Higher Education: A Critical Review with Policy Recommendations. Education and Employment Division, Population and Human Resources Department, World Bank. [Volume 56 of PHREE Background Paper Series.](#)
- Laura L. (2021). Organisational performance measurement in the third sector. PhD thesis. <http://theses.gla.ac.uk/82225/> University of Glasgow.
- Lee, C., & Buckthorpe, S. (2008). Robust performance indicators for non-completion in higher education. *Quality in Higher Education*, 14(1), 67-77.
- Mahmud, B. F. (2020). Intellectual Capital Management and Nigeria Public Universities Performance. PhD Thesis, Kwara State University, Malete.
- Merchant, K. A., & Van Der Stede, W.A. (2007). *Management control systems*. 2. ed. Harlow: Pearson Education Limited. www.pearson-books.com
- Mukhtiyanto, A., Hermawan, A. A., & Hadiwidjaja, R. D. (2020). The role of management control systems in the performance of higher education through good university governance. *International Journal of Trade and Global Markets*, 13(3), 288. doi:10.1504/ijtgm.2020.108777
- Ossai, A. G. & Nwalado, E. N. (2017). Quality in Higher Education in Nigeria: Perceptions of Global Challenges. *Nigerian Academic Forum*. 25(1)
- Otley, D.T. (1980), The Contingency Theory of Management Accounting: Achievement and Prognosis, *Accounting, Organisations and Society*. 5 (4). 428-431.
- Ozor, D. C. (2015). Effect of Internal Control System on Management of Organisational Resources of Manufacturing Firms in Nigeria (Master's Thesis), Department of Accountancy, University of Nigeria, Enugu Campus.
- Paweł W. & Dmytro O. (2019): The impact of management control systems and managers' educational background on the effectiveness of public cultural institutions in a post-transition economy, *Economic Research-Ekonomska Istraživanja*, DOI: 10.1080/1331677X.2019.1691035.
- Pelz, D. C., & Andrews, F. M. (1976). Scientists in organizations: Productive climates for research and development. Ann Arbor, MI: University of Michigan.



- Pinilla, B., & Munoz, S. (2005). Educational opportunities and academic performance: A case study of university student mothers in Venezuela. *Higher Education*, 50(2), 299-322.
- Ryan, R. M. & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development and Well-Being. *American Psychologist* 55 (1): 68–78.
- Sahito, Z. & Vaisanen, P. (2018). Quality in Teacher Education: Evidence from the Universities of Sindh, Pakistan. *Journal of Language Teaching and Research*, 9(5), 916-927. DOI: <http://dx.doi.org/10.17507/jltr.0905.04>
- Sailesh S. & Saleh A, S., (2021). Organizational Performance Influenced by Academic Service Quality: An Investigation in Public Universities in Malaysia", *Education Research International*, vol 2021 9.(4) pp 9-20. Article ID 8408174, doi.org/10.1155/2021/8408174
- Sall, M. Y. (2003). Evaluating the cost of wastage rates: The case of the University Gaston Berger du Senegal. *Higher Education Policy* 16, 333–349.
- Sutton, N. C. & Brown, D. A. (2014). The illusion of no control: management control systems facilitating autonomous motivation in university research. *Journal of Accounting and Finance*. 8(12), 189-195.
- Tawil, S., Akkari, A. & Macedo, B. (2011) Beyond the conceptual maze. Approaches to quality in education. In: *UNESCO Education Research and Foresight. ERF Discussion Papers*, 2011, n° 2. <https://archiveouverte.unige.ch/unige:20233>.
- Wendy B., Cerraro W. H., Raquel M & Carlos B. (2019). Combining Categories of Management Control Tools for High Performance of Start-ups. *Review of Business Management e-ISSN 1983-0807. DOI: 10.7819/rbgn.v21i5.4022 861*.