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EDITORIAL NOTE

This is the fourth volume, the second issue of the Pan-African Journal of Business Management (PAJBM) hosted at the Faculty of Business Management at the Open University of Tanzania. This issue includes articles covering service performance, pension fund investment, institutional quality, Pollution haven hypothesis, organizational change and job performance. All areas are of interest to scholars in Africa. The researchers in this issue deal with conditions in Tanzania, Nigeria and the BRICS countries.

The Editorial Board hopes that the readers will find the articles useful and contribute to the academic knowledge in the respective areas.

With this issue, I will leave the Chief Editorship to Dr Bukaza Chachage at OUT. The Associate Editor will also leave his position to Dr Raphael Gwahula at OUT. We thank you all for showing interest for PAJBM during these four years and hope you will continue using the Journal.

Prof. Jan-Erik Jaensson
Chief Editor

General information

The Journal is produced by the Faculty of Business Management at The Open University of Tanzania. It will accept theoretical, conceptual and research-based papers in a wide range of topics on business management concerning Africa. It also accepts cases, book reviews and summaries of dissertations.

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CONTENTS

Customers' perception on service performance: A comparative analysis between foreign and local banks in Tanzania

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Abstract: *This study was a comparative study of the level of service performance between foreign and local banks. It focused on customers' perception of service performance. This comparison was purposely done due to the fact that different international banks have opened their branches in Tanzania, and this has in one way or another forced to change the competitive landscape of the country's banking industry. The study had a sample size of 380 respondents who were the customers of these banks. Confirmatory Factor Analysis at the second-order level was analyzed by looking at the Chi-square statistical values, Incremental Fit Index, the Tucker-Lewis Fit Index, the Comparative Fit Index, the Parsimony Normed Fit Index, and the Root Mean Square Error Approximation as the indicators of the model fit. Mean values were compared between foreign and local banks. The main findings from the study indicate that the fit indices indicated measurement invariance of service performance. quality of service, service innovativeness, and cash distribution facilities were perceived better by foreign banks' customers than local banks' customers.*

Keywords: Service Performance, Service quality, Service Innovation, Facilities for cash distribution.

Introduction

Globally, the financial sector plays a significant role in the country's economy. This largely because of the health of the financial services sectors an indicator of the health of the economy. With the advent of privatization and liberalization policies since the last decade, it becomes a challenge for the commercial banks to maintain their customer bases as well as gaining the new ones as now customers can shop around and choose services that offer the best perceived-value (Malik, *et al.*, 2011). These developments imply commercial banks need to constantly improve their offerings to be able to cater to the ever-changing needs of these customers.

The value that customers perceive in the banks' offerings is largely based on how customers perceive quality and psycho-social benefits sought and money being paid for the particular service. The perception has an underlying role in determining future customers' engagements with a particular service firm which will ultimately determine customers' loyalty. With the competitive pressure that banks experience globally, earning customers' loyalty is critical because it ensures the creation of the banks' competitive edge against competitors and hence an assurance of banks' survival. Furthermore, with the ever-changing customers' needs and preferences that largely affect how services are to be delivered, this has forced banks to ensure that customers' needs and preferences are specifically identified, and services designed and delivered in a manner that meet or exceed customers' expectations (Rehman, 2012)

Banks' service performance greatly plays a significant role in ensuring that they remain competitive. The concept of service performance has attracted a great deal of attention among practitioners and the academics. If well implemented by the banks it could be used as a means of developing service differentiation among banks and hence enhancing customers' perceived value (Malik, *et al.,* 2011).

The justification for undertaking this study is based on the fact that the banking industry in Tanzania exhibits signs of competition which is important in strengthening financial stability and the country's economic development. The intensive competition in the Tanzanian banking industry has heightened customers' awareness of differences in service delivery and prompted them to switch banks in search of better services. With that being the case, Tanzania has played an important role of being a research ground to carry out a study that looked on the competitiveness of the banking industry by comparing how service performance is being perceived by customers of both local and foreign banks that have their business operations in Tanzania.

The research findings of this study therefore may be used by the banks as the path towards the improvement in the areas in which these banks tend to be weak as per the analyzed responses of the data collected from the customers' perceptions on the banks' service performance, as well as ensuring the sustainability in those areas which these banks have managed to deliver expected service standards. The similarities and differences revealed by the study could be considered by both scholars and practitioners to obtain a better understanding of customers' behavior in the Tanzanian banking context.

Literature Review: Theoretical Exposition

Elements of Service Performance

Enhancing how customers perceive banks' service performance has become an important strategic business goal of different business organizations. This is because, as customers perceive a particular business organization's service offering seems to attract a lot of customers in the market, then ultimate outcomes start to evolve that have an underlying role of ensuring that profits increase and customers are both attracted and retained (Kamakura, Mittal, de Rosa and Mazzon 2002). Furthermore, there are several of previous studies that have tried to show how customers' perceptions that may have developed during the service delivery, and how these service experiences may lead to possible outcomes such as customers' repeat purchases and the spreading of the favorable word -of -mouth to other prospective customers (Keiningham, Perkins-Munn, and Evans 2003). When these flattering customers' outcomes unfold, then the business organizations will be in a position to strengthen its overall performance.

Service quality

Globally, due to intensive competitive pressures of different business environments, business organizations are compelled to ensure consistently high levels of service quality that guarantee continuity. When a service firm provides high service quality to its customers, it is in a position to meet its customers' service expectations which will ultimately result in customer satisfaction. The notion of having satisfied customers, has managed to attract a great deal of attention from both business practitioners and the academic society as this business notion has been seen to have Customer satisfaction has a close relationship with customer post-purchase behavior such as repeat purchases and spreading a positive word of mouth to other prospective customers (Ryu and Han 2010). Yayla, Kaya, and Erkmen (2005) have noted that it is necessary for a service organization to recognise and exploit on service quality dimensions to be able to attract and maintain customers who are satisfied with the services, to enjoy the competitive edge and therefore at the end ensuring organizational business continuity in the industry.

According to Rehman (2012), how customers perceive the dimensions of service quality is easily understood if evaluated after the customer has consumed a particular service. The comparison of the before and after the state of the service consumption sheds light on the overall customer's experience after using a particular service. For the banks to ensure there is business sustainability, then these banks have to make sure that services are delivered in the way that services meet or exceed customers' expectations. This is because, there is a close link between how services are delivered to customers and the profits generated by the service firm (Ishaq, 2012).

Studies show service quality ensures higher levels of customer satisfaction which increases the probability of repeat purchases and influences the service firms' financial performance. It is therefore important that managers of service organizations have adequate knowledge on how service quality and associated determinants attract and retain customers (Korda and Boris 2010).

The influence of service quality in the banking industry has been recognized as an important determinant in customers' choices when they shop around for services. Since most of the banks operating in the Tanzanian banking industry seem to have similar offerings it becomes paramount for the managers of these banks to ensure that services delivered to target customers meet and exceed customers' expectations (Olaleke 2010).

Studies demonstrate that service quality as a construct cannot be considered as a concept with a single measurement, but rather as multidimensional. These dimensions include the reliability of the service delivered, the physical facilities involved directly or indirectly in the process of service delivery, service employees' willingness and readiness to respond to customers' complaints and questions, the friendliness of the service employees that may include their understanding and politeness (Korda and Boris 2010).

Previous models corroborated Oliver's (1980) disconfirmation model on service quality. In the model, Oliver (1980) propounded that, service quality has a significant role to play in making sure that customers' perceptions about a particular service are either met or exceeded, so that service organizations may at the end enjoy customers' repeat purchases which is one of the signs of loyalty. Oliver's (1980) model was further supported by the study of Grönroos (1984) which found that the recognition of the level of service delivered is the subjective evaluation of the customers that are cognitively carried out before and after the service performance.

Service innovation

Service innovation can be referred to as the time when the service firm decides to introduce something new to its customers. This innovative offering aims at ensuring heightened service offerings and customers' value perceptions (Hollebeek, *et al.,* 2018a; Ordanini and Parasuraman, 2011). The ability of the service firm to constantly innovate its service offerings then will be in a position of producing superior customer-based outcomes, while at the same time ensuring firms' competitive edge against all those that seem to produce similar service offerings (Chen, *et al.,* 2018). With the competitive pressure that the banking sector faces globally, then the ability to innovate has been taken as the way that if well implemented then these banks can be able to stay ahead of the competition and hence ensuring their survival in the industry.

Service innovation is closely linked to firms' growth as firms' innovativeness attracts new customers, enhancing business operational efficiency as well as heightening perceived customers value, service experience and, customer loyalty (Walls, *et al.,* 2011). Kim, *et al.,* (2019) notes that the influence that service innovation brings on customers' value co-creation attitude, customer satisfaction and customer loyalty remain to be uncertified. Understanding service innovation, its drivers, and outcomes, including the understanding of its link with the concepts such as customer value co-creation, customer satisfaction and customer loyalty remain under-explored (Divisekera and Nguyen, 2018; Kim *et al.,* 2018). And this fact has made it necessary for this current to further explore the concept of service innovation and cash distributions in light of the Tanzanian banking industry, by carrying out a comparative of service performance between foreign and local banks.

Cash distribution facilities

In regards to cash distribution facilities, Jun and Cai (2001) propounded that enhancing cash distribution channels while at the same time offering new service offerings are most of the time geared towards meeting or exceeding customers' service expectations which ultimately resulting to the customer satisfaction. The facilities for cash distribution include several things like banks' service access, physical access and its overall service innovativeness. All these are fundamentally geared towards creating customers' convenience (Jun and Cai 2001).

For instance, Moguluwa and Ode (2013) advocated that advancements made in technology that were geared towards things like ATMs, telephones, and internet services play a significant influence in the whole process of meeting service customers' expectations and hence their satisfaction. For the service organization to ensure customer satisfaction these technologies have to be put in place because they significantly reduce bureaucracy, enhance service convenience, speed up the whole process of service delivery, and the time eliminating long queues of customers within branches (Patricio, Fisk and Cunha 2003). According to Patricio et al. (2003), the existence of widened service distribution channels significantly impacts the level of customer satisfaction as customers will be in a position to select the most convenient service distribution channel and which would be easily accessed. For example, banks' ATMs enhances customers' satisfaction due to the service convenience that customers tend to experience due to these ATMs' presence.

Methodology

Research design

In this study, a cross-sectional research design was applied. A total of 380 respondents from the banking sector who have been using the services of their particular banks for at least six months filled in self-administered questionnaires. These customers were approached at the banks' branches. Before the interview, the researcher had to introduce himself to the customers and was told the purpose of the study, and those willing were given self-administered questionnaires.

Measurement

Service Performance Dimensions

In this particular study, an extended model of service delivery which consisted of quality of service, service innovation, and facilities for cash distribution was applied. The service performance dimensions were largely based on the 22-core item scale, as it was used by the previous study of Parasuraman, Zethaml, and Berry (1988). Eighteen (18) measurement items from Service innovation and facilities for cash distribution as developed from the literature were added to the original 22 items to give the actual picture of the Tanzanian banking industry.

The 40-item scale was measured by using a seven-point Likert scale, ranging from 1 to 7, with a score of 1= strongly disagree through 7= strongly agree.

Sampling

The sampling frame for this particular study included all the registered commercial banks operating in the Tanzanian banking industry During the time that this study was carried out, a total of 30 listed commercial banks were contacted by the researcher. Before any customers were interviewed, these banks were approached for consent that would enable the researcher to survey by interviewing their customers. In the end only 14 banks agreed to participate and gave the researcher permission to carry out the study. Moreover, a convenience sampling technique was applied to draw the list of respondents to be interviewed. The use of convenience sampling was because it made it possible to obtain a larger number of fully completed questionnaires from respondents. All the respondents had to be willing and accessible to fill in self-administered questionnaires.

Data collection

A survey research method was applied as a means in the data collection process that involved structured questionnaires. The researcher used a paper-based survey, where the respondents were approached to self-complete the questionnaires. This was considered to be an efficient means of data collection in the Tanzanian context as there was physical contact between the researcher and the respondents.

Data analysis

Chi-square, the Incremental Fit Index (IFI), the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), the Parsimony Normed Fit Index (PNFI), and the Root Mean Square Error Approximation (RMSEA) were carried out to assess the model's fit. The Mean values of the construct were also examined to get the basis of doing a comparison of service performance between banks that operate in the Tanzanian banking industry. In this regard, the second-order CFA model was applied to simplify the fundamental structure of the arrangement of covariance between the first-order latent factors, by giving a description of covariance that exists thereby describing the covariance in a way that has fewer parameters (Strasheim 2011).

Research Results

The Measurement Model of Service Performance

A Second-Order CFA of Service Performance

A second-order CFA model can be applied to simplify the fundamental structure of the arrangement of covariance between the first-order latent factors, by giving a description of covariance that exists thereby giving a description of the covariance in a way that has fewer parameters (Strasheim 2011).

The second-order model is appropriate in circumstances that indicate high correlations of the first-order confirmatory factors and when there is a theoretical justification for these factors to originate from a higher-order dimension (Brown 2015). In this particular study, service tangibility and service employees' empathy as the first-order factors result from the SERVQUAL approach which was developed by Parasuraman, Berry, and Zeithaml (1988), while security, service innovativeness, service access, physical access, and cash distribution as proposed by Jun and Cai (2001) were also included as important dimensions of service performance, to give a realistic picture of the banking industry in Tanzania.

Moreover, service innovation and quality of service were applied as high-order factors. The service performance model in Figure 1 indicates that the two underlying factors may be appropriate to give a representation of the relationships that exist between constructs in the first-order level.

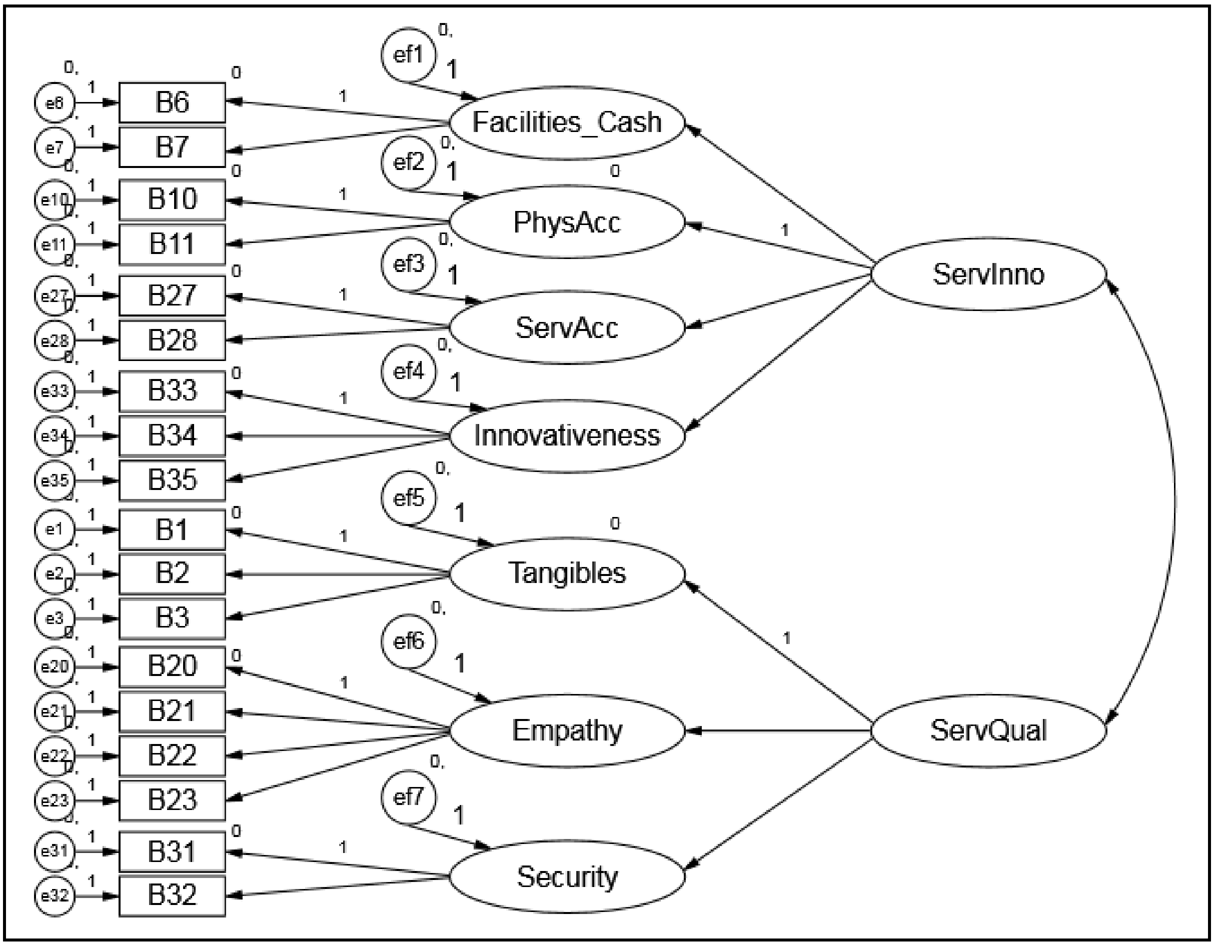

Figure 1: A second-order confirmatory factor analysis measurement model of service performance

Measurement Invariance of Service Performance at the Second-Order level

Table 1 indicates three main cut-off criteria that were used to decide whether the various models fitted the data well. The model fits were required to have the value of the ratio of chi-square to the degrees of freedom less than 3 (Hu and Bentler 1999); IFI, CFI, and TLI over 0.9, and preferably over 0.95 a very good fit, and RMSEA lower than 0.08 for reasonable fit and smaller than 0.05 an excellent fit, similar to the situation with the invariance testing results of the first-order model.

Table 1: Additional Fit Measures of the Second-Order Confirmatory Factor Analysis Model of Service Performance

	Baseline Comparisons **MODEL**	**IFI**	**TLI**	**CFI**	**SRMR**
MM0	Unconstrained	0.937	0.923	0.936	0.0738
MM1	Measurement weights	0.937	0.927	0.937	0.0736
MM2	Measurement intercepts	0.936	0.929	0.936	0.0735
MM3	Structural weights	0.936	0.930	0.936	0.0746
MM4	Structural intercepts	0.936	0.931	0.936	0.0744
MM5	Structural means	0.934	0.930	0.934	0.0746
MM6	Structural covariances	0.934	0.930	0.933	0.0863
MM7	Structural residuals	0.931	0.929	0.931	0.0904
MM8	Measurement residuals	0.926	0.929	0.927	0.0910
	Saturated model	1.000		1.000	
	Independence model	0.000	0.000	0.000	
	RMSEA **MODEL**	**RMSEA**	**LO 90**	**HI 90**	**PCLOSE**
MM0	Unconstrained	0.053	0.046	0.059	0.242
MM1	Measurement weights	0.051	0.045	0.058	0.374
MM2	Measurement intercepts	0.051	0.044	0.057	0.431
MM3	Structural weights	0.050	0.044	0.056	0.470
MM4	Structural intercepts	0.050	0.043	0.056	0.523
MM5	Structural means	0.050	0.044	0.056	0.478
MM6	Structural covariances	0.050	0.044	0.056	0.478
MM7	Structural residuals	0.050	0.044	0.056	0.448
MM8	Measurement residuals	0.051	0.045	0.056	0.433
	Independence model	0.189	0.185	0.194	0.000

In Table 1, the values of IFI, TLI, and CFI for all models from unconstrained up to measurement residuals were above the recommended cut-off point of 0.9. These second-order results suggest that based on baseline fit criteria, the second-order model provided a reasonably good fit to the data and therefore it was appropriate to proceed to subsequent analyses.

In the same Table 1, the values of the RMSEA ranged between 0.05 and 0.053 for the unconstrained model through to the measurement residuals model. All these values were between 0.05 and 0.08, indicating a reasonable model fit as recommended by Diamantopoulos and Siguaw (2000). The SRMR was also below 0.08 for models MM0 to MM5. These fit measures suggest that this second-order measurement model of service performance was a plausible conceptualization across the two groups of customers, that its outputs could be applied to test hypothesis relationships at the structural level and that the model could be used to compare local and foreign banks.

Maximum Likelihood Parameter Estimates of the Second-Order Model of Service Performance

Table 2 provides the maximum likelihood estimates of the second-order service performance model M4. All the regression weights were highly significant, an indication that the convergent validity of the measurement items was supported in the model. In addition, the structural weights were also highly significant, lending support for the suitability of the second-order model.

Table 2: Maximum Likelihood Parameter Estimates of the Second-Order Model of Service Performance With Equal Structural Weights and Intercepts and Equal Measurement Weights and Intercepts

Items and latent variables			**Regression weights**			**Standardised regression weight**	
			Foreign and Local				
			Estimate	**Sig.**	**Intercept**	**Foreign**	**Local**
Facilities_Cash	<---	ServInno	0.933	***	0.486	0.533	0.696
PhysAcc	<---	ServInno	1.000		0.000	0.606	0.737
ServAcc	<---	ServInno	0.961	***	0.320	0.565	0.791
Innovativeness	<---	ServInno	1.040	***	0.963	0.792	0.834
Tangibles	<---	ServQual	0.796	***	0.000	0.776	0.826
Empathy	<---	ServQual	1.000		1.070	0.865	0.895
Security	<---	ServQual	0.868	***	0.296	0.761	0.871
B6	<---	Facilities_Cash	1.000		0.000	0.810	0.794
B7	<---	Facilities_Cash	1.011	***	-0.001	0.855	0.843
B10	<---	PhysAcc	1.000		0.000	0.862	0.836
B11	<---	PhysAcc	1.009	***	-0.173	0.799	0.811
B27	<---	ServAcc	1.000		0.000	0.916	0.847
B28	<---	ServAcc	0.969	***	-0.053	0.773	0.677
B33	<---	Innovativeness	1.000		0.000	0.742	0.856
B34	<---	Innovativeness	0.998	***	-0.042	0.787	0.878
B35	<---	Innovativeness	0.930	***	0.318	0.696	0.822
B1	<---	Tangibles	1.000		0.000	0.759	0.787
B2	<---	Tangibles	1.072	***	-0.184	0.854	0.836
B3	<---	Tangibles	1.006	***	0.371	0.819	0.815

B20	<---	Empathy	1.000		0.000	0.854	0.871
B21	<---	Empathy	0.961	***	0.210	0.825	0.88
B22	<---	Empathy	0.906	***	0.423	0.824	0.850
B23	<---	Empathy	0.909	***	0.434	0.816	0.853
B31	<---	Security	1.000		0.000	0.925	0.871
B32	<---	Security	0.984	***	0.055	0.874	0.812

Model identification was achieved by constraining one indicator regression coefficient per latent variable equal to one while the corresponding intercept values were being constrained equal to zero.

The model implied means and model implied variances generated from the second-order confirmatory factor analysis of service performance in Table 3 allow for a comparative analysis of the two groups of customers, which reveals a number of interesting differences between them. The findings suggest that the mean values for the foreign banks were consistently higher on both the second-order dimensions when compared with the mean values of the local banks.

Table 3: Model Implied Latent Means and Variances af the Second-Order Confirmatory Factor Analysis Model of Service Performance

Latent Variable	**Means**				**Variances**	
	Local	**Foreign**	**Difference** 1	**Sig.**	**Local**	**Foreign**
ServInno	4.082	4.400	0.318	0.004	0.637	1.027
ServQual	4.750	5.030	0.281	0.032	1.206	1.469

1: The difference was obtained in a model where scalar invariance was imposed by setting the measurement weights and intercepts in the model, as well as the structural weights and intercepts equal across groups. The means of the latent variables in this model for the local banks were constrained equal to zero, whilst the latent means of the foreign banks were left to be freely estimated. The resulting significances were obtained from the mean estimates of this model for the foreign banks.

The mean score of service innovation for the local banks was 4.082, which was significantly lower than the mean score of 4.440 for foreign banks ($p = 0.004$). The observation in this study was that the service innovation of the foreign banks' when analyzed based on the overall physical access, service access, facilities for cash distribution, and innovativeness was perceived to be significantly better than that of local banks.

In terms of service quality, the mean score for the foreign banks was 5.030, which was significantly higher than the mean score of 4.750 for the local banks ($p = 0.032$). These values suggest that service quality delivery, composed of tangibles, empathy, and security systems were perceived significantly more favorably by foreign bank customers compared to local bank customers.

Discussion and Conclusion

Importance of the Context of This Study

In this study, this expanded model acted as an umbrella to incorporate the conventional service quality dimension and the new service innovation dimension. Service innovation was added because the influx of foreign banks to Tanzania has forced local banks to be consistently innovating new services to compete by meeting customers' expectations and by matching or improving their service offerings against those of the foreign banks (Daudi and Sonny 2002). Similarly, because of the realities of the Tanzanian economy, facilities for cash distribution was modeled as being a dimension of service innovation, because Tanzanian customers predominantly use cash rather than debit or credit card transactions.

Banks operating in this highly competitive business environment continue to compete in terms of customer satisfaction by ensuring excellent service performance that meets or exceeds customers' expectations. Delivering a quality service has always been considered an important prerequisite for establishing and sustaining satisfying relationships with valued customers (Shanka 2012). Customer satisfaction leads to customer loyalty which in turn ensures the generation of stable revenue and profits for the banks and enhances their corporate reputation (Dowling 2004).

Examining service performance was important because it shows how the commercial banks operating in Tanzania meet their customers' expectations. Customers tend to remain loyal if a firm meets their service expectations and the firm will eventually make a profit from these customers (Kamakura et al. 2002). According to Keiningham et al. (2003), other behavioral outcomes that may result from customer loyalty include repeat purchases and the spreading of a positive view by word of mouth.

From the findings of the study, foreign banks operating in the Tanzanian banking industry seem to be performing higher than the local Tanzanian banks in all aspects of service quality, service innovation, and facilities for cash distribution.

Managerial Implications

Both service quality and service innovation were perceived positively in both groups of banks. It, therefore, becomes the task of managers to make sure that, tangibles, physical access, service access, and innovativeness are continuously enhanced.

Empathy is a prerequisite for frontline employees should be taken seriously by the bank managers. This highlights the importance of having the right caliber of frontline employees, especially customer-facing roles.

The findings on service performance make it clear that managers for both foreign and local banks should improve banks' service performance dimensions, which are service innovation and service quality to ensure higher levels of customer satisfaction.

Propositions for Future Research

The researcher suggests that the measurement instrument used to measure service performance be considered for further refinement. The new measurement instrument could be designed to contain more items to ensure both service innovation and facilities for cash distribution, such as customer loyalty, customers service engagement to have a comprehensive representation of service performance.

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Pension Fund Investment and Capital Market in Nigeria

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Abstract: *The paper examines the dynamic and causal relationship between pension fund investment and capital market development in Nigeria. The paper employed the Autoregressive distributed lag model to estimate the cointegration relationship between the variables. The results indicate that in the long-run, the impact of local ordinary share (LOC) on total market capitalization was positive and statistically significant while Pension fund investment asset (PFI) and monetary policy rate (MPR) were positive and statistically insignificant. Also, when the total value of shares traded was used as a measure of capital market development, the results indicate that increase in lag one and lag three of the total value of stock traded and lag one of pension fund investment results in an increase in the total value of stock traded. In terms of which variable granger causes the other, the results indicate that none of the variable Granger causes each other meaning that both variables (Pension fund investment and Market Capitalization) are determined independently. That is, neither pension fund investment causes total market capitalization nor Total Market Capitalization granger cause Pension fund investment. Based on the findings of the study the paper, therefore, concludes that over the years the investment of pension funds into the capital market has assisted to engender the development of the Nigeria Capital market. The paper recommends that more pension fund investment should be channeled to the capital market to develop and strengthen the Nigerian capital market and make the market more competitive.*

Key words: Pension Fund Investment, Capital Market Development, Market Capitalization, Nigeria

Introduction

The link between pension fund investment and capital market development is a topical issue among scholars and policymakers. The issue of pension has received much attention in many countries over the past decades. In fact, in recent times, the pension has increasingly attracted the attention of policymakers in many countries as a means of facilitating privately funded retirement income savings by an aging workforce (World Bank, 2008). Many countries have opted for various forms of contributory pension scheme where employers and their employees are supposed to pay a certain percentage of the employee's monthly earnings to retirement savings accounts from which they would be drawing their pension benefits after retirement. Besides pension funds are now among the most important institutional investors in the world capital markets (Klumpes and Mason, 2000).

Banwo and Ighodalo (2015) report that before 2004, the Nigerian pension industry under the old defined-benefit system had a deficit of about $12.9 billion. And since the 2004 reforms introduced the Contributory Pension Scheme (**"CPS"**), the industry has witnessed exponential growth. As at the end of September 2015, total pension contribution in the custody of Pension Fund Custodians (**"PFCs"**) and under the management of Pension Fund Administrators (**"PFAs"**) including Closed Pension Fund Administrators, was more than N4.8 trillion (about$26 billion).

In Nigeria, investment of pension fund assets is regulated by a government agency named the National Pension Commission (PENCOM). The commission derives its power from the Pension Act 2004 which stipulates how the assets shall be invested. Section 86 of the act highlights the types of investment of pension funds which include bonds, bills, and other securities in the capital market.

To guarantee future income through savings in a pension scheme particularly a contributory pension scheme, such savings must be efficiently invested through investment outlets that can ensure minimal risk, the security of fund, and greater returns. One such investment platform is the capital market. The Capital market is an indispensable tool for enhancing productivity, investment activities stimulating rapid industrial as well as economic development (Ogege and Ezike,2012). The most important role of the Nigerian Capital Market is the mobilization and efficient allocation of capital for investment purposes. The market puts in place structures for the mobilization of savings from numerous surplus economic units for the production process and thus enhances economic growth and development.

The nexus between pension fund investment and capital market development has been a subject of interest among researchers. It is often argued that the creation of funded pension plans has major long-term implications for the functioning and growth of the financial market. As noted by Vittas (1996), the question of the links between pension fund investment and financial markets has two aspects. One concerns the preconditions in terms of financial sector development for the successful implementation of pension reform, while the other refers to the long-term impact of pension reform on the development of financial markets. He argued that pension reform and the promotion of private pension funds requires a small core of sound, prudent and efficient financial institutions, such as banks and insurance companies, but does not depend on the prior existence of well-developed securities markets but he opined that private pension funds and insurance companies may have a beneficial impact on financial market development once they reach critical mass and provided they operate in a conducive regulatory environment.

The findings of past studies such as Babalos and Stavroyiannis(2019), Alda (2017) Zubair (2016), Enache, Milos & Milos (2015), Eke and Onafalujo (2015, Channarith and Wade (2010) have been mixed and conflicting. The mixed and conflicting findings may be a result of the static approach used by most of the studies. The past studies overlooked the dynamic relationship between pension investment and capital market development. Pension fund investment and capital market development are dynamic phenomena rather than static variables, this paper, therefore examines the dynamic impact of pension investment on capital market development. This paper is a departure from other existing studies in the literature that ignored the dynamic and causal relationship between pension fund investment and capital market. Apart from the introduction section, the paper is further divided into three other sections. Section two is a review of the literature. Section three is the methodology and discussion of findings and results while section four concludes the paper.

Literature Review

An emerging body of empirical literature beginning two decades ago has had the motive of examining the kind of relationship that exists between pension funds and capital market as well as establishing the theoretical connection between the two variables and other control variables determining the growth of each and how they affect each other. The growth of the pension fund industry and development of the domestic capital market has become a great concern and point of research in the financial circle to empirically document the correlation in existence. Enache et al. (2016) noted that private pension funds have an important role to play within institutional investors because it has a high-risk appetite in portfolio diversification. Pension Funds have also been reported that they enhance financial innovation. Particularly, the deepening of capital markets has been produced by the development of the activity of pension funds. (Catalán, 2004; Corbo & Schmidt-Hebbel, 2003; Davis, 1998a; Vittas, 1999).

In establishing the influence of financial institutions on capital market development, Briston and Dobbins (2007) opined that institutional investors such as insurance companies, pension funds, investment trust companies, etc., have influenced greatly the growth of the UK Stock Market. And their participation in the market has also enhanced the growth of share price as well as partaking in the decision making of the market.

Pension funds are regarded as savings for future use and something must drive the use of these funds in the capital market that will motivate the managers of these funds to invest the capital in the market. This takes us to the loanable fund's theory which explains the determination of interest in terms of demand and supply of loanable funds or credit. According to this theory, the rate of interest is the price of credit, which is determined by the demand and supply for loanable funds. (Jhingan, 2010). In other words, the theory argues that all things being equal, the interaction of savers (pension contributors) and investors determine the rate of interest. However, in reality, financial investments are subject to systematic risk as argued by portfolio theory such that there is a limit to diversification. While identifying interest rate as a potential pension risk Scheuenstuhl (2012) again reviews that a prudently managed pension fund requires being consistently forward-looking in managing all risk factors that drive the outcome of the pension assets and liabilities in a capital market. Whether a pension fund is privately or publicly funded, what matters are the investment opportunities available for the funds and how the funds could be used as loanable funds in the capital market as well as taking into consideration the motivating factor which is the return on investment. Davis (1998a) confirms that pension funds bring about short-term biases in the capital market and this is entrenched in the modern portfolio theory and perfect capital market theory. The institutional investors themselves must act to nurture long term biases for the pension policy to confront these theories.

In general, theoretical postulations and empirical findings support the positive impact of pension funds on the capital market. However, most of the empirical studies in the literature focused on developed economies while few have attempted to study emerging economies such as Nigeria. However, some of their findings are discussed as follows.

Wang (2004) conducted a non-parametric study on Pension Reform and Capital Market Development in China. The study discovered that there is a positive and significant relationship between Pension funds investment and the development of the Chinese capital market in a well-developed and regulated financial market. In a similar study by Davis (1998b) where the impact of pension reforms on development of financial development was examined, the author concludes that portfolio investment of the pension system greatly influenced the development of the financial sector provided that government or pension regulators do not restrict future pension fund portfolio investment. A subsequent study by Milos (2012) examines the relationship between pension reform and domestic stock market development in the European Union. The study shows a positive and significant relationship. The study concludes that a positive connection between the capital market and private pension funds started manifesting after the year 2000.

Adami *et al.* (2014) examined the investment performance of pension funds in the UK using the three standard performance measurement models which are CAPM, Fama-French Model, and Carhart. The authors show that the abnormal returns of pension funds cannot be fully explained by size, book-to-market values, market returns, momentum, and the term spread. They find larger abnormal returns in bond than in equity portfolios and that smaller funds outperform the larger funds.

Enache *et al.* (2015) investigate the impact of pension funds on the capital market in a sampled ten (10) Central and Eastern European Countries from 2001 to 2010. The finding provides further evidence of short-term impact and lower magnitude long term impact on market capitalization. The findings were in support of the (Milos, 2012; Channarith and Wade (2010).

Shen *et al*. (2020) in their study on the Stock Investment Performance of Pension Funds in China discovered that a social security fund is better than that of direct investment by China's National Council for Social Security Fund. The annual risk-adjusted return on entrusted investment is 9.54% higher than that of direct investment.

In the context of Nigeria, the study of Ezugwu and Alex (2014) provides answers to the question of whether the regulatory body for Pension Funds allows portfolio investment. Their study centres on the portfolio of pension fund investment in Nigeria and discovers that pension funds are invested in more equity than the bond market in Nigeria. This suggests the level of development in the Nigerian equity market which is more developed than the bond market and the institutional investors will be looking at the risk-reward profile of any market to invest.

Other studies in the Nigerian context include the work of Adeoti, Gunu & Tsado (2012) that evaluated the determinants of pension funds investment in Nigeria. Factors such as economic, risk, and security of real estate factors were identified as the major determinants of pension fund investment while variables such as interest rate, internal control system, etc, are not critical in determining investment of pension funds in Nigeria. The result of their study is consistent with the nature of pension in Nigeria which is a compulsory contributory pension scheme, not a choice based scheme where the consideration for an interest rate would have been a concern. The study of Nwanne (2015) was not limited to the capital market alone but extended to examine the impact of contributory pension scheme on economic growth in Nigeria for the period 2004-2012. The study discovered that although pension savings positively influenced economic growth during the period under review, pension fund negatively impacts economic growth. His findings were supported by Gunu and Tsado (2012) and Edogbanya (2013). However, Dostal (2010) reported a negative impact of the pension reforms on the development of the financial market and real sector economy. His argument was based on the failure of the regulatory bodies to encourage the alignment of the pension fund with economic programs capable of propelling the growth and development in different sectors of the economy.

As the interest rate is very key to attract investment, Eke and Onafalujo (2015) investigated empirically the causal relationship between interest rate, capital market, and pension assets in Nigeria from 1981-2013. Their study reveals that pension asset is directly sensitive to the stock market index, while the index is inversely sensitive to short term interest rate. This implies that an increase in the short-term interest rate will reduce the pension fund investment in the capital market and to attract more pension fund portfolio investment, regulatory bodies and markets must operate at an optimal level by making a return on investment an attractive tool to drive investments in the capital market.

Zubair (2016) established that countries with well developed financial market enjoy significant development in their pension funds than those with the emerging financial market. This suggests that financial development is a function of pension fund investment such that the level of significance is determined by the development of the financial market in which both the pension and capital market operates and when this happens, the development will be vice-versa.

Many authors have tried to establish the empirical connection between pension funds and capital market development using different samples of countries and methodology. The studies of Alda, (2017), Qureshi et al. (2017), and Babalos and Stavroyiannis (2020) all established a positive relationship between pension funds investment and capital market development but in a static approach rather than a dynamic relationship considering the fact that pension fund investment and capital market development are a dynamic phenomenon. We, therefore extended the methodology of previous studies to incorporate other market variables in our models to test the dynamic relationship between pension fund investment and capital market development.

Methodology

This study aims at examining the relationship which exists between Pension Funds Investment (PFI) and Capital Market (CM). In order to achieve the objectives of the study, different econometric techniques were adopted including trend analysis to establish the correlation between the variables and the intervening variables. Secondary data were collected from CBN Quarterly Economic Reports and Financial Statistical Bulletin, World Bank Economic Reports, NBS Economic Reports and PENCOM Quarterly Publications. The data collected is a time series for the period of 45 quarters (2007Q1-2018Q4).

The choice for Autoregressive Distributed Lag Model (ARDL) was necessitated by the results of our pre-analysis estimation which was done prior to the development of an appropriate structure of the econometric model to investigate the univariate characteristics of all data series and ascertain the degree to which they are integrated. The Augmented Dickey-Fuller (ADF, 1979) and Phillip Perron (PP) were used for and the result of the unit root test is presented to show the level of stationarity of each variable.

ARDL (Autoregressive Distributed Lag Model)

To investigate the existence of a long-term relationship (cointegration) in our analysis we used the testing and estimation procedure advanced in Pesaran *et al.* (1997) and Pesaran and Shin (1999). The motivation for using ARDL technique and not the other cointegration methods such as the Johansen (1998) Maximum Likelihood test reside in the fact that it does not entail all the variables in the model to be I (1), or of the same order.

Model Specifications

We specify two models to examine the dynamic relationship and the direction of causality between pension fund investment and capital market development. Model one measures the impact of PFI on TMC and Model two measures the impact of PFI on TVS.

Model 1: Modelling the impact of PFI on TMC

The ARDL model formulated to determine the impact of PFI on TMC is stated as follows:

$$TMC_t = \beta_{1i} + \alpha_{1i}TREND_t + \sum_{n=0}^{a} \delta_{11kl}\, TMC_{t-1} + \sum_{n=0}^{b1} \delta_{12kl}\, PFI_{t-1} + \sum_{n=0}^{b2} \delta_{13kl}\, RGDP_{t-1} + \sum_{n=0}^{b3} \delta_{14kl}\, MPR_{t-1} + \sum_{n=0}^{b4} \delta_{15kl}\, LOC_{t-1} + \sum_{n=0}^{b5} \delta_{16kl}\, IR_{t-1} + \sum_{n=0}^{b6} \delta_{17kl}\, GFCF_{t-1} + \sum_{n=0}^{b7} \delta_{18kl}\, FS_{t-1} + \mu_{1t} \ldots\ldots \quad (1)$$

Where

TMC =	*Total Market Capitalization*
TVS =	*Total Value of Stock traded*
PFI =	*Pension Fund Investment Asset*
RGDP =	*Real Gross Domestic Products*
MPR =	*Monetary policy rate*
LOC =	*Local Ordinary share*
IR =	*Interest rate*
GFCF =	*Gross fixed capital formation*
FS =	*Federal Government Securities*

Re-writing equation (1) in general VECM form to capture the dynamic relationship among the variables in the short and long-run, the model becomes:

$$TMC_t = \beta_{1i} + \alpha_{1i}TREND_t + \sum_{n=0}^{a} \delta_{11kl}\, TMC_{t-1} + \sum_{n=0}^{b1} \delta_{12kl}\, PFI_{t-1} + \sum_{n=0}^{b2} \delta_{13kl}\, RGDP_{t-1} + \sum_{n=0}^{b3} \delta_{14kl}\, MPR_{t-1} + \sum_{n=0}^{b4} \delta_{15kl}\, LOC_{t-1} + \sum_{n=0}^{b5} \delta_{16kl}\, IR_{t-1} + \sum_{n=0}^{b6} \delta_{17kl}\, GFCF_{t-1} + \sum_{n=0}^{b7} \delta_{18kl}\, FS_{t-1} + \delta_{21i}TMC_{t-1} + \delta_{22i}PFI_{t-1} + \delta_{23i}RGDP_{t-1} + \delta_{24i}MPR_{t-1} + \delta_{25i}LOC_{t-1} + \delta_{26i}IR_{t-1} + \delta_{27i}GFCF_{t-1} + \delta_{28i}FS_{t-1} + \mu_{1t} \ldots\ldots \quad (2)$$

Model 2: Modelling the impact of PFI on TVS

$$TVS_t = \beta_{1i} + \alpha_{1i}TREND_t + \sum_{n=0}^{a} \delta_{11kl}\, TVS_{t-1} + \sum_{n=0}^{b1} \delta_{12kl}\, PFI_{t-1} + \sum_{n=0}^{b2} \delta_{13kl}\, RGDP_{t-1} + \sum_{n=0}^{b3} \delta_{14kl}\, MPR_{t-1} + \sum_{n=0}^{b4} \delta_{15kl}\, LOC_{t-1} + \sum_{n=0}^{b5} \delta_{16kl}\, IR_{t-1} + \sum_{n=0}^{b6} \delta_{17kl}\, GFCF_{t-1} + \sum_{n=0}^{b7} \delta_{18kl}\, FS_{t-1} + \mu_{1t} \ldots\ldots \quad (3)$$

Re-writing equation (3) in general VECM form to capture the dynamic relationship among the variables in the short and long-run, the model becomes:

$$TVS_t = \beta_{1i} + \alpha_{1i}TREND_t + \sum_{n=0}^{a}\delta_{11kl}\,TVS_{t-1} + \sum_{n=0}^{b1}\delta_{12kl}\,PFI_{t-1} + \sum_{n=0}^{b2}\delta_{13kl}\,RGDP_{t-1} + \sum_{n=0}^{b3}\delta_{14kl}\,MPR_{t-1} + \sum_{n=0}^{b4}\delta_{15kl}\,LOC_{t-1} + \sum_{n=0}^{b5}\delta_{16kl}\,IR_{t-1} + \sum_{n=0}^{b6}\delta_{17kl}\,GFCF_{t-1} + \sum_{n=0}^{b7}\delta_{18kl}\,FS_{t-1} + \delta_{21i}TVS_{t-1} + \delta_{22i}PFI_{t-1} + \delta_{23i}RGDP_{t-1} + \delta_{24i}MPR_{t-1} + \delta_{25i}LOC_{t-1} + \delta_{26i}IR_{t-1} + \delta_{27i}GFCF_{t-1} + \delta_{28i}FS_{t-1} + \mu_{1t} \quad \ldots (4)$$

Data Analysis

We carried out preliminary test as mentioned earlier to evaluate the nature of the distribution of the dataset. This test comprises of the unit root test, cointegration tests and trend analysis. Thereafter, the actual estimation was carried out using Autoregressive Distributed Lag (ARDL) approach and Granger causality test for the two models. Table 1 presents the result of the stationary tests of the variables in the model based on the Augmented Dickey Fuller (ADF) and Phillip Perron (PP) unit root tests. The tests were carried out at level and first differences.

Table 1: Unit Root test

	Level		**First difference**		
Variables	**ADF**	**PP**	**ADF**	**PP**	**I(d)**
FS	-2.201307	-2.413839	-5.716364*	-5.629442*	I(1)
GFCF	-5.181708*	-5.196069*	-	-	I(0)
IR	-1.850066	-2.359728	-2.777683***	-2.919307***	I(1)
LOC	-1.086518	-1.094125	-6.593149*	-6.593149*	I(1)
MPR	-1.643997	-1.313966	-3.893772*	-2.303103**	I(1)
PFI	6.298268	5.472232	3.542252**	-3.543046*	I(1)
RGDP	-1.503391	-1.143849	-12.29850*	-11.18383*	I(1)
TMC	-1.774602	-2.069991	-5.598942*	-5.598942*	I(1)
TVS	-1.839078	-2.364533	-2.925486**	-2.219061**	I(1)

Note: * represents 1% significant level; ** represents 5% significant level and *** represents 10% significant level. Calculated at trend and lag lengths selected automatically using the Schwarz Info Criterion (SIC).

From Table 1, the results of the unit root tests under the two conventional methods have the same results on the stationary level of the variables of interest at varying significant levels except for the gross fixed capital formation (GFCF) which was stationary at levels at 1% significant level.

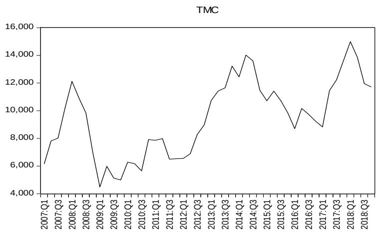
Table 2: Johansen Cointegration Test

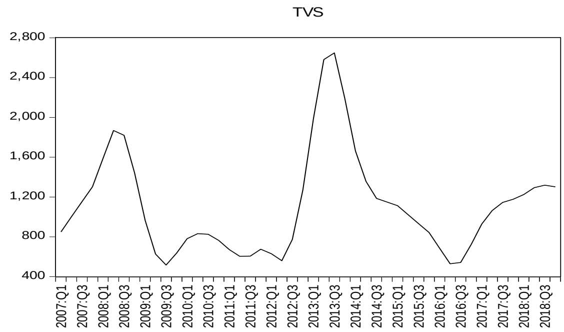
Lags interval (In first difference) : 1 to 2						
Trend assumption: Linear deterministic trend						
Hypothesized No. of Cointegrating Equations (CEs)	**Eigen value**	**Trace Statistic**	**0.05 Critical Value**	**Hypothesized No. of CE(s)**	**Max-Eigen Statistic**	**0.05 Critical Value**
r = 0*	0.993363	628.4074	228.2979	r = 0*	225.6783	62.75215
r ≤ 1*	0.900297	402.7291	187.4701	r ≤ 1*	103.7503	56.70519
r ≤ 2*	0.807903	298.9788	150.5585	r ≤ 2*	74.23892	50.59985
r ≤ 3*	0.786418	224.7399	117.7082	r ≤ 3*	69.46808	44.49720
r ≤ 4*	0.722178	155.2718	88.80380	r ≤ 4*	57.63489	38.33101
r ≤ 5*	0.578052	97.63691	63.87610	r ≤ 5*	38.82930	32.11832
r ≤ 6*	0.491321	58.80762	42.91525	r ≤ 6*	30.41719	25.82321
r ≤ 7*	0.409673	28.39042	25.87211	r ≤ 7*	23.71857	19.38704
r ≤ 8	0.098611	4.671852	12.51798	r ≤ 8	4.671852	12.51798

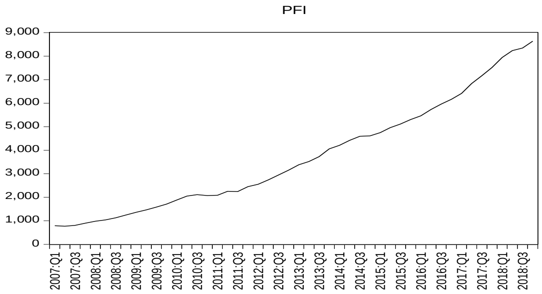
Source: Author, 2020

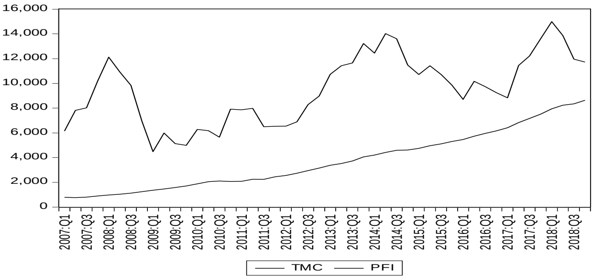
The long run relationship test was conducted using Johansen cointegration test. The purpose of this was to ascertain whether the variables of interest are related and can be combined in a linear version. The results, in Table 2 indicate that at 5% significant level, there were agreements between the Trace and Max Eigen statistics. Both Trace and Max Eigen tests suggested that there are long run relationships between the variables of the interest, that is, there are co-integrated. The Trace and Max Eigenvalue test predicted that at most they are 8 cointegrating equations (CEs) at the 5% level.

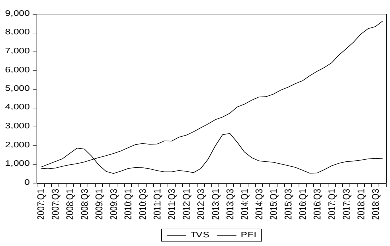
Trend analysis

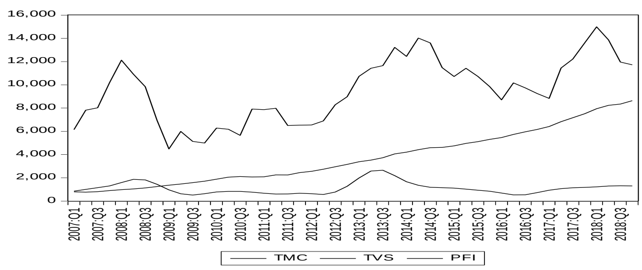












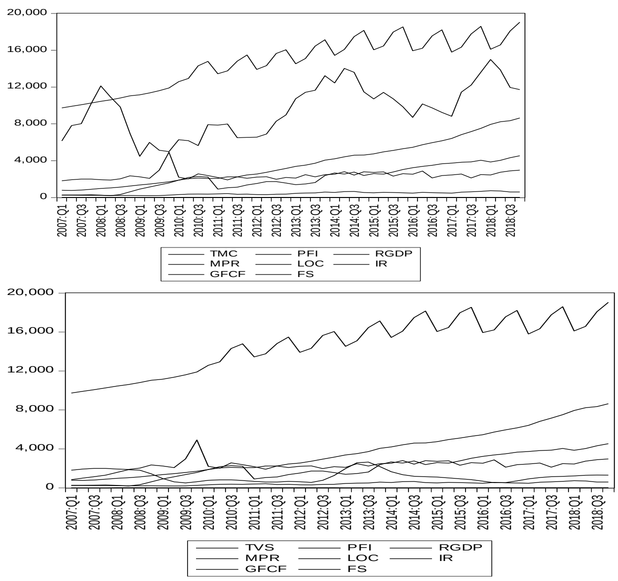


Figure 1: Trend in level of Total market capitalization (TMC), Total volume of stock traded (TVS) and Pension fund investment Assets (PFI).

Figure 1 shows a trend in level of total market capitalization. It increased steadily from 6,150/2007Q1 to 12125.9/2008Q1. This could be as a result of change in government from Obasanjo led government to a Yaradua led government coupled with the introduction of new policy. There was a sharp decrease in total market capitalization level from 10920.32 billion/2008Q2 to 4989.39 billion/2009Q4. There is volatility (up and down) in the level of total market capitalization 2010Q1 to 2018Q4 showing that there was no upward consistency in the level of total market capitalization from 2007 to 2018. Total value of stock traded increased sharply from 2007Q1 to 2008Q3 after which it maintained an up and down at a decreasing rate. It started increasing again until it reached its peak at 2013Q3. It maintained its volatility at a decreasing rate till 2018Q4. There was a sharp and steady increase in the level of pension fund investment assets from 2007Q1 to 2018Q4 indicating that government are committed to with good pension policy which encourage more people to save more for their pension.

When there was a co-movement between total market capitalization (TMC) and Pension Fund Investment Assets (PFI), there was a sharp decrease in the level of pension fund investment assets while total market capitalization does not behave differently. As showed from the graph, pension fund investment affect the level of total value of stock traded when both variables move together. The level of TVS decreases while PFI maintained its increase level. Both TVS and PFI behaved the same way when both have co-movement with TMC and other explanatory variables. There was decrease in the levels of TVS and PFI.

Table 3: Long run relationship using ARDL bound test using TMC as the dependent variable

F-Bound Test (TMC \ PFI RDGP MPR LOC IR GFCF FS)				
Test statistic	Value	Significant	I(0) Bound	I(1) Bound
F-statistic	14.43343	10%	1.95	3.06
K	8	5%	2.22	3.39
		2.5%	2.48	3.7
		1%	2.79	4.1
t-Bound Test				
t-statistic	-4.659511	10%	-2.57	-4.4
		5%	-2.86	-4.72
		2.5%	-3.13	-5.02
		1%	-3.43	-5.37

When Total Market Capitalization is used as the dependent variable, the F-statistic value (F_{tmc} = 14.43343) and t-statistic value (t_{tmc} = -4.659511) are greater than the lower (I(0) bound at 5% significance level. It indicates that the null hypothesis of no level of relationship is rejected and accepts the alternate hypothesis of there is long run relationship among the variables. Thus, when total market capitalization is the dependent variable, there is long run convergence between the dependent and independent variables.

Table 4: Long run relationship using ARDL bound test using TVS as the dependent variable

F-Bound Test (TVS \ PFI RDGP MPR LOC IR GFCF FS)				
Test statistic	Value	Significant	I(0) Bound	I(1) Bound
F-statistic	9.812770	10%	1.95	3.06
K	8	5%	2.22	3.39
		2.5%	2.48	3.7
		1%	2.79	4.1
t-Bound Test				
t-statistic	-8.943175	10%	-2.57	-4.4

		5%	-2.86	-4.72
		2.5%	-3.13	-5.02
		1%	-3.43	-5.37

Also, When total value of stock traded becomes the dependent variable, both the F-statistic value (F_{tmc} = 9.812770) and t-statistic value (t_{tmc} = -8.943175) are greater than the lower (I(0) and upper bound at 5% significance level indicating that there is a long run relationship among the variables of interest. The null hypothesis of no levels relationship is rejected and the alternate hypothesis of there is long run relationship among the variables is accepted. Thus, there is a long run relationship between the total value of stock traded and other stated explanatory variables which are PFI, RDGP, MPR, LOC, IR, GFCF and FS.

Table 5. Results of Estimated ARDL model of TMC

Dependent Variable: TMC				
Selected Model: ARDL(1, 0, 3, 3, 0, 2, 0, 0)				
Included observations: 45 after adjustments				
Short-run estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TMC(-1)	0.200417	0.106895	1.874901***	0.0713
RGDP(-1)	-0.204952	0.168515	-1.216219	0.2341
RGDP(-2)	-0.190235	0.195222	-0.974453	0.3382
RGDP(-3)	-0.335821	0.159877	-2.100498**	0.0448
MPR(-1)	35.05257	886.2589	0.039551	0.9687
MPR(-2)	-1144.914	872.7030	-1.311918	0.2002
MPR(-3)	1158.029	371.2313	3.119427**	0.0042
IR(-1)	412.5260	349.5205	1.180262	0.2478
IR(-2)	-375.0407	213.0972	-1.759952***	0.0893
CointEq(-1)*	-0.799583	0.075635	-10.57160*	0.0000
Long-run Estimates				

PFI	0.099628	0.333268	0.298942	0.7672
RGDP	-0.231980	0.174187	-1.331786	0.1937
MPR	530.0647	383.0958	1.383635	0.1774
LOC	21.09048	3.328742	6.335870*	0.0000
IR	-144.6342	209.1285	-0.691604	0.4949
GFCF	-0.553828	0.276149	-2.005542***	0.0547
FS	-0.424630	0.522862	-0.812125	0.4236
R-squared		0.956579		
Adjusted R-squared		0.931768		
F-statistic		16.21825*		
Durbin-Watson stat		1.847532		

Note: *, ** and *** signify significance level at 1%, 5% and 10% respectively.

The estimated ARDL approach is a composite of short-run and Long-run estimates of the relationships among the variables used in this study. The empirical result of the impacts of pension fund investment assets (PFI), real gross domestic products (RGDP), monetary policy rate (MPR), local ordinary share (LOC), interest rate (IR), Gross fixed capital formation (GFCF) and Federal government Securities (FS) on Total market capitalization (TMC) are presented in Table 5. The ARDL test automatically choose the lag length for all the variables based on automatic selection of Schwarz criterion (SIC) though the model lag was set at three for sufficient degree of freedom.

From Table 5, the coefficients of short-run lag one of total market capitalization and lag three of monetary policy rate have positive and significant impact on the total market capitalization level at 10% and 5% respectively. It indicates that as total market capitalization in the short-run lag one and monetary policy rate in lag three increase, current total market capitalization also increase. The short-run lag one estimate of both interest rate and monetary policy rate were positive and statistically insignificant at 5% indicating that an increase in short-run lag one of interest rate and monetary policy rate have no influence on changes in total market capitalization. However, the coefficients of RGDP(-3) and MPR(-3) were negative and statistically significant at 5% while IR(-2) was negative and statistically significant at 10% meaning that they all influence changes in total market capitalization in the short-run. Similar findings were reported for RGDP(-1), RGDP(-2), and MPR(-2) but were statistically insignificant. The ECM was negative and statistically significant at 1%. The value of Error Correction Model (ECM) (-0.799583) indicated that the previous years' errors will be corrected in the current year at an adjustment speed of 79.96%. Thus, the model corrects its disequilibrium in the short-run at an adjustment speed of 79.96% in order to return to the long-run equilibrium.

In the long-run, the impact of local ordinary share (LOC) on total market capitalization was positive and statistically significant at 1% while Pension fund investment asset (PFI) and monetary policy rate (MPR) were positive and statistically insignificant. In other word, the impact of gross fixed capital formation (GFCF) on total market capitalization was negative and statistically significant at 10% while RGDP, IR and FS were negative and statistically insignificant. On magnitude, a 1% increase in PFI, MPR, and LOC positively influence changes in total market capitalization by 0.1%, 530.1% and 21.1% respectively. Also, 1% increase in RGDP, IR, GFCF and FS reduce total market capitalization by approximately 0.2%, 144.6%, 0.6% and 0.4% respectively. The value of Adjusted R-squared of 93.2% implying that 93.2% variations in total market capitalization is jointly explained by all the variables in the model. The model is well specified and statistically significant. This is shown by the value of F-statistic (16.21825), which is statistically significant at 1% level of significance. The Durbin Watson Statistic (1.847532) shows that there is no problem of auto serial correlation in the model.

Table 6: Post estimation test for TMC

Test	**Coefficient**	**Prob.**
Normality Test (Jarque-Bera stat)	0.016420	0.991824
Serial Correlation LM Test	0.237869	0.8691
Heteroskedasticity Test	0.845363	0.6297

From Table 6 6, the coefficient of Jarque-Bera statistic (0.016420) and its corresponding probability (0.991824) indicated that the model is normally distributed. The result of serial correlation LM test with a coefficient of 0.237869 and corresponding probability (0.8691) confirmed that the model is free from the problem of serial autocorrelation. The outcome of residual heteroskedasticity test confirmed that the model is homoskedasticity.

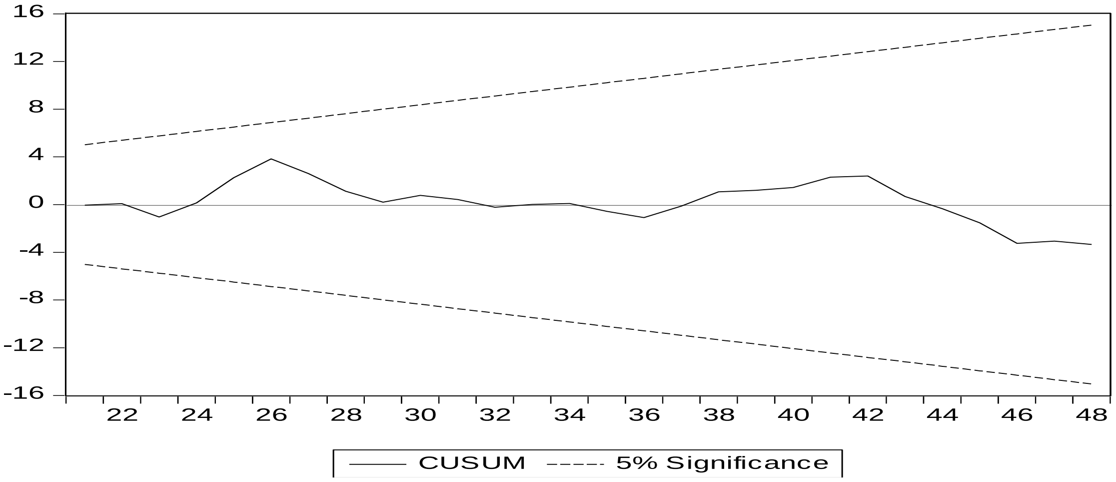


Figure 2: Cusum stability Test

The Cusum series in Figure 2 lies between the lower and upper critical limit value of 5% indicating that the model is stable.

Table 7: Estimated ARDL model of TVC

Dependent Variable: TVS				
Selected Model: ARDL(3, 3, 0, 0, 1, 0, 0, 0)				
Included observations: 45 after adjustments				
Short-run estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TVS(-1)	1.993923	0.123529	16.14128*	0.0000
TVS(-2)	-1.727411	0.199104	-8.675940*	0.0000
TVS(-3)	0.603803	0.116060	5.202485*	0.0000
PFI(-1)	1.107957	0.461618	2.400162**	0.0228
PFI(-2)	-0.270934	0.313602	-0.863940	0.3945
PFI(-3)	-0.399233	0.207063	-1.928076***	0.0634
LOC(-1)	-1.412638	0.618856	-2.282661**	0.0297
CointEq(-1)*	-0.129685	0.022452	-5.776041	0.0000
Long-run Estimates				
PFI	-0.388383	0.327254	-1.186794	0.2446
RGDP	0.002572	0.013190	0.194959	0.8467
MPR	17.94386	10.51711	1.706158***	0.0983
LOC	0.640557	0.462354	1.385426	0.1761
IR	-14.05848	6.654744	-2.112550**	0.0431
GFCF	-0.018933	0.032633	-0.580194	0.5661
FS	-0.076213	0.057596	-1.323235	0.1958
R-squared		0.925049		
Adjusted R-squared		0.910869		
F-statistic		65.23629*		
Durbin-Watson stat		1.575982		

Note: *, ** and *** signify significance level at 1%, 5% and 10% respectively.

The empirical findings of the impacts of pension fund investment assets (PFI), real gross domestic products (RGDP), monetary policy rate (MPR), local ordinary share (LOC), interest rate (IR), Gross fixed capital formation (GFCF) and Federal government Securities (FS) on Total value of stock traded (TVS) are illustrated in Table 7. The ARDL test automatically choose the lag length for all the variables based on automatic selection of Schwarz criterion (SIC) though the model lag was set at three for sufficient degree of freedom.

From Table 7, the coefficients of TVS(-1), and TVS(-3) were positive and statistically significant at 5% respectively while PFI(-1) was at 10% significance level. It indicates that increase in the lag one and lag three of total value of stock traded and lag one of pension fund investment result to increase in total value of stock traded. However, the coefficients of TVS(-2), was negative and statistically significant at 1%, LOC(-1) was negative and statistically significant at 5% while PFI(-3) was negative and statistically significant at 10% significance level meaning that they all have negative influence on total value of stock traded in the short-run. Similar result was reported for PFI(-2) but statistically insignificant. The ECM was negative and statistically significant at 1%. The value of ECM (-0.129685) indicated that the previous years' errors will be corrected in the current year at an adjustment speed of 12.97%. Thus, the model corrects its disequilibrium in the short-run at an adjustment speed of 12.97% in order to return to the long-run equilibrium.

In the long-run, the impact of monetary policy rate on total value of stock traded was positive and statistically significant at 10% significance level while real gross domestic product (RGDP) and local ordinary share (LOC) were positive and statistically insignificant. In other word, the impact of interest rate on total value of stock traded was negative and statistically significant at 5% while GFCF and FS were negative and statistically insignificant. On magnitude, a 1% increase in RGDP, MPR, and LOC positively influence changes in total value of stock traded by 0.003%, 17.944% and 0.641% respectively. Also, 1% increase in PFI, IR, GFCF and FS reduce total market capitalization by approximately 0.388%, 14.059%, 0.019% and 0.076% respectively. The value of Adjusted R-squared of 91.1% implying that 91.1% variations in total market capitalization is jointly explained by all the variables in the model. The model is well specified and statistically significant. This is shown by the value of F-statistic (65.23629), which is statistically significant at 1% level of significance. The Durbin Watson Statistic (1.575982) shows that there is no problem of serial autocorrelation in the model.

Table 8: Post estimation test for TVS

Test	**Coefficient**	**Prob.**
Normality Test (Jarque-Bera statistic)	1.628557	0.442959
Serial Correlation LM Test	1.501468	0.2366
Heteroskedasticity Test	0.2366	0.2858

Table 8 showed that the residual in the model is normally distributed. This was confirmed by the coefficient of its Jarque-Bera statistic (1.628557) and corresponding probability (0.442959). The result of serial correlation LM test with a coefficient of 1.501468 and corresponding probability (0.2366) confirmed that the model is free from the problem of serial autocorrelation. The outcome of residual heteroskedasticity test confirmed that the model is homoscedastic. This was showed by the coefficient (0.2366) and its probability (0.2858)

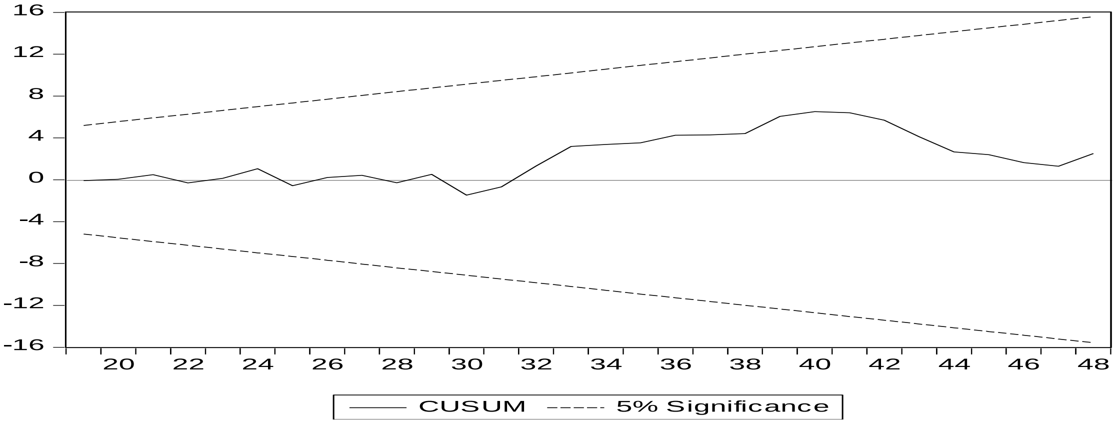


Figure 3: Cusum stability Test

The Cusum series in Figure 3 lies between the lower and upper critical limit value of 5% indicating that the model is stable.

Table 9: Granger Causality test

Short run Causality					
Null Hypothesis	No. of obs	No. of lag	F-Stats	Prob.	Decision Rule
PFI does not Granger Cause TMC TMC does not Granger Cause PFI	47	1	1.34791 0.98073	0.2519 0.3274	Do not reject Do not reject
PFI does not Granger Cause TMC TMC does not Granger Cause PFI	46	2	1.58311 0.85026	0.2176 0.4347	Do not reject Do not reject
PFI does not Granger Cause TMC TMC does not Granger Cause PFI	45	3	1.21273 0.57032	0.3183 0.6380	Do not reject Do not reject
PFI does not Granger Cause TMC TMC does not Granger Cause PFI	44	4	1.69005 0.46173	0.1743 0.7633	Do not reject Do not reject

Source: Author, 2020

Table 9 indicate that none of the variable Granger cause each other meaning that both variables are determined independently. That is, neither pension fund investment cause total market capitalization nor total market capitalisation granger cause PFI

Table 10: Granger Causality test for Total value of stock traded and Pension Fund Investment Assets

Short run Causality					
Null Hypothesis	No. of obs	No. of lag	F-Stats	Prob.	Decision Rule
PFI does not Granger Cause TVS TVS does not Granger Cause PFI	47	1	1.6E-05 0.70293	0.9968 0.4063	Do not reject Do not reject
PFI does not Granger Cause TVS TVS does not Granger Cause PFI	46	2	0.86379 0.53970	0.4291 0.5870	Do not reject Do not reject
PFI does not Granger Cause TVS TVS does not Granger Cause PFI	45	3	2.39956 0.88617	0.0829 0.4570	Do not reject Do not reject
PFI does not Granger Cause TVS TVS does not Granger Cause PFI	44	4	0.98048 0.67348	0.4308 0.6148	Do not reject Do not reject

Source: Author, 2020

Also, from Table 10, neither pension fund investment granger cause total volume of stock traded nor total stock traded granger cause pension fund investment, meaning that both variables are determined independently.

Discussion of Findings

Having presented the results using different econometric techniques, the implications of the results are discussed based on the objectives of the study. The trend analysis shows that there was a significant increase in the total market capitalization from the first quarter of 2007 to the first quarter of 2008. There was a consistent growth in the trend of the variable. Although, the sharp increase might be attributed to the transition of government between Obasanjo led administration and Yar'adua led administration cum new regulation on the market variables. However, inconsistency swings into action from the end of 2008Q1 to 2018 resulting in a high level of volatility. The persistent volatility in the TMC for a period of not less than 10 years was attributed to different factors such as political, economical, and legal frameworks.

The trend analysis depicts that the stock traded moved in the same direction with the TMC in the periods from 2007 to 2008. However, the volatility emerged but not an increasing one and this was experienced up to the last quarter in 2018. Our results also reveal that there was a sharp and steady increase in the level of PFI from 2007Q1 to 2018Q4 suggesting that government at all levels are committed to the effectiveness of the Pension Act 2004 as amended by encouraging and mandating contributory pension scheme.

An attempt was made to check the trend for their co-movement between TMC with PFI and PFI and TVS respectively. The graphs show that there was a sharp decrease in the level of PFI while TMC remained unaffected. The results reveal however that when the level of TVS reduced a little bit the TMS remains unaffected. There was a similar co-movement in both the TVS and PFI and this suggests a positive relationship between the two variables and how they influence the total market capitalization.

The analysis of the impact of PFI on TMC based on Johasen cointegration suggests that there are long-run relationships between the variables which imply that the variables are cointegrated. Also since the bound test F-statistic value (Ftmc = 14.43343) and t-statistic value (ttmc = -4.659511) are greater than the lower (I(0) bound which suggests that there is long-run convergence between Total market capitalization (TMC) and pension fund investment assets (PFI). The TVS and other explanatory variables show a long-run relationship.

The first model empirically reveals that an increase in PFI, MPR, and LOC will have a positive and significant influence on TMC while an increase in RGDP, IR, GFCF, and FS will have an insignificant negative impact on the TMC. The study reveals that pension funds investment impacts capital market development positively. This result is in conformity with the findings of (Millos, 2012; Enache et al., 2015; Eke and Onafalujo, 2015; Alda, 2017 and Shen et al., 2020). An investment in the pension has greatly influenced the development of the Nigerian capital market and still has a long-run positive effect on the market. The government must provide necessary regulations to sustain and strengthen pension policy in the country so as to increase portfolio investment of the funds.

The macroeconomic variables such as RGDP, GFCF, IR and FS in accordance with the result will have a negative impact but insignificant on the total market capitalization. This result indicates the interaction of pension funds investment with selected macroeconomic variables does not statistically reduce the development of the capital market. This result upholds our theoretical postulation of Loan Theory which we discussed in the literature review that that interest rate in the market as the price is determined by the forces of demand and supply and also reveals that there is some element of efficiency in the market.

The second model measures the impact of pension fund investment assets onthe total value of stock traded. The result reveals that there is a long-run relationship among the variables evidenced by both the F-statistic value (Ftmc = 9.812770) and t-statistic value (ttmc = -8.943175) which are greater than the lower (I(0) and upper bound at 5% significance level.
The results indicate that RGDP, MPR, and LOC have positive and significant effects on the Total Value of Stock traded in the Nigerian Capital Market during the period under review. Variables such as PFI, IR, GFCF, and FS have negative influence although insignificant on the changes in the TVS. Our results support the position of Eke and Onafalujo (2015) on the interaction between the interest rate and pension fund investment as well as the total volume of stock traded. Our study extended further the methodology by including variables like Monetary Policy Rate, Local Ordinary Share, Gross Fixed Capital Formation, and Federal Government Securities which previous studies did not capture, hence, our contributions to knowledge because their inclusion was able to add values to the empirical results which have economic implications for the country.

The Cusum tests established stability in the parameters of the two models as well as the results of the Granger Causality test which provide shreds of evidence that neither pension fund investment granger causes the total volume of stock traded nor total stock traded granger causes pension fund investment, meaning that both variables are determined independently.

Conclusion

This paper examines the dynamic and causal relationship between pension fund investment and Capital market development in Nigeria. Based on the findings, the paper, therefore concludes that pension fund investment impacts capital market development positively. The investment of pension funds into the capital market over the years has assisted to engender the development of the Nigeria Capital market and the impact would be more significant in the long run. The paper recommends that more pension fund investment should be channeled to the capital market investment with a view to develop and strengthen the Nigerian capital market and make the market more competitive.

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Institutional Quality and Macroeconomic Determinants of Diaspora Remittances Inflow in Nigeria

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Abstract: *The study examined the institutional quality and macroeconomic determinants of diaspora remittances inflow in Nigeria, via autoregressive distributed lag model (ARDL) from 1981-2017. The ARDL bound cointegration test showed that a long-run relationship exists among institutional quality and macroeconomic determinants of remittance inflows in Nigeria. That is, there is a long-run implication of GDP, exchange rate, inflation rate, interest rate, unemployment, and net migration on the remittances inflows in Nigeria. Besides, the findings demonstrated that both in the short and long-run institutional quality and macroeconomic determinants of remittances have a significant relationship with the remittance's inflows in Nigeria. While GDP per capita, inflation rate, and interest rate exert a negative effect, exchange rate and net migration exhibit a positive significant link with remittances inflows. It is suggested and concluded that to pull in more remittances, policymakers should think progressively about actualizing steady and master development strategies. It is, consequently, prescribed to devise procedures planned for accomplishing a higher and continued pace of financial development, improved institutions in form of regulatory quality, control of corruption, political stability, and stability of macroeconomic variables in Nigeria.*

Key Words: Institutional Quality, Macroeconomic, Remittances, Diaspora Inflow

Introduction

The primary intentions behind sending remittances as expected in the related hypothetical writing incorporate benevolence, hazard protection, advance reimbursement, trade, and legacy (Hagen and Siegel,2007). These thought processes run from impure benevolence to pure personal conditions (Rapoport and Docquier, 2006). Individuals in the intermediate of the two boundaries are named "impure altruism" (Lucas and Stark, 1985). In pure altruism, migrants send cash home to monetarily support their dependent relative in the nation of the source (Lucas & Stark, 1985; Rapoport & Docquier, 2006). Regardless of the significance of remittances, the nexus among the determinants of diaspora remittances in Nigeria and institutional quality are limited and inadequate.

Besides, although scholars have made an effort to appraise the extent of remittances and research their effect in developing nations, it is seen that besides Egypt in the African district; sub-Saharan Africa, especially Nigeria has given next to no consideration regarding the issue of remittances and macroeconomic determinants through the lenses of quality institutions. There are a few investigations that recorded that macroeconomic determinants of diaspora remittances not even within the lenses of how institutional quality enhances more diaspora remittances inflow into the country. From theoretical constructs, it has been shown that there are two contradicting assumptions as to the causal connection between remittances and macroeconomic factors. The pro-cyclical hypothesis, and countercyclical hypothesis. Late writing has likewise featured the significance of geographical separation and other respective factors in driving remittances. Investigational proof in such a method is restricted in light of constrained information, accessibility concerning shared remittances after some time. At the same time with the financial extent of the beneficiary and the resource of the nation (estimated in GDP), the exchange cost between the source and the receiving nation (once in a while estimated as far as mutual geographical separation) is viewed as a determinant of remittances (Ezike & Ogboi, 2017).

Nevertheless, the position of institutional quality is a major factor of remittances (World Bank, 2017). Remittances allow and act as a form of social protection that enables beneficiaries to substitute government expenditure with their private funds (Berdiev et al., 2013; Majeed, 2016). Research shows that immigrants are citizens who have an impact on national strategy and are pulling the policy to fulfill its task via the wealth of experience acquired from living overseas. They aim to improve the lives of their people, make relations, and offer opportunities of becoming active politically in-home nations. It serves as a useful voice to push the authorities to eliminate costs and handle it effectively (Tyburski, 2014; Tusalem, 2018; Borja, 2020). Remittances could result in higher prices for savings instruments, provided that the fixed expenses of receiving remittances increasing result in a lump-sum influx, presenting families with surplus cash over a certain length of time. Mostly as consequence, they can enhance their preference for deposit accounts on the basis that investment banks give families a safe capacity to sell their transient surplus capital (Misati et al., 2019; Muktadir-Al-Mukit & Islam, 2016).

In comparison to other studies, Nigeria has indeed been rated among the most corrupt and terrorist country in the world (Transparency International, 2019). Although such ratings indicate crucial issues for Nigerian people and the numerous institutional quality indicators could be improved. According to World Bank (2018), Nigeria is the largest recipient of remittances in sub-Saharan Africa with approximately \$22 billion in 2017, followed by Senegal (\$2.2 billion), Ghana (\$2.2 billion), Kenya (\$2.0 billion), Uganda (\$1.4 billion) and Mali (\$1.0 billion). It has been estimated that these countries would still be the largest remittances in the country. Despite the inflow of these funds into the region, there is minimal and insufficient research to investigate the institutional quality and macroeconomic determinants of diaspora inflows in Nigeria and sub-Saharan Africa.

The justification or gap for this study is critical due to the Covid and post Covid era the whole world has witnessed. Total direct remittance inflows to Nigeria have decreased dramatically in recent years, dropping by 50% from US$ 2.04 billion to US$ 1.01 billion around January and February 2020. This is slightly lower than the 2019 average, with a total of US$ 23 billion being committed in 2019, making Nigeria the largest recipient in the sub-Saharan African region. Nonetheless, with most of its people living in the diaspora especially in countries that have already been heavily affected by the COVID-19 pandemic, particularly Spain, Italy, the United Kingdom, and the United States, their ability to function and therefore remit funds have been drastically reduced. Given that remittances are an important source of revenue for poor people in developing countries, this positive innovation could reduce poverty and expand inequality. Remittance payments are estimated to continue to decline in the upcoming years, as the recent World Bank report states that transfers to low- and middle-income countries in sub-Saharan Africa will decrease by 23.1% in 2022 (Knomad,2019).

To reduce the effects on disadvantaged families, the government has a crucial role to play in enhancing institutional efficiency and providing extra safety net programs for the pro-poor and poor by ensuring that the cash transfer process is effective and fair (Centre for the Study of the African Economy,2020). Authorized transfers in the form of remittances to third world countries contributed to $429 billion in 2016, a significant decline of 2.4% from $440 billion in 2015, while worldwide inflows decreased by 1.2% to $575 billion in 2016, from $582 billion in 2015 (World Bank, 2017). According to the World Bank (2017), remittances to sub-Saharan Africa declined by approximately 6.1 % to $33 billion in 2016. Ranking linked to declining oil prices and poor economic growth in Europe that hindered collecting nations' remittances; and shifts in remittances to indirect mechanisms due to regulated exchange-rate mechanisms in parts of Africa (World Bank, 2017).

Research has shown that there has been developing attention to migrants' remittances to their nations of origin in recent times and such as money related to migrant remittances are critical for development. The issue of remittances has kept on being on the front burner. As indicated by International Migration (2017) report, more than 1 million Nigerians dispersed in the diaspora over Europe, the United States, Asia, North America, and different pieces of Africa, transmits $20bn every year to Nigeria. These remittances inflows of private ventures, family use, access to training, and social insurance help in a great way in easing existing and future poverty. Other than these, an expanding total of research discovered that remittances are certain to affect growth positively as exemplified in several studies (Giuliano and Ruiz-Arranz,2009, Kumar,2014, Marwan et al,2013, Bayar, 2015, Tahir et al.2015, Nwaogu and Ryan,2015, Karamelikli & Bayar,2015); while a few examinations showed that remittances have undesirable impact on growth (Hassan et al., 2017; Jouini, 2015; Parinduri & Thangavelu,2011).

The World Bank reported and evaluated figures of global remittances in 2018 to be over $689 billion around the world. India ($78.609 billion; 2.9% of GDP) and China ($67.4 billion; 0.5% of GDP) got the most elevated progressions of internal remittances s while Nigeria was the seventh most elevated beneficiary of inward inflows ($24.311 billion; 6.1% of GDP). In certain nations and domains, inflows are represented as high as over 30% of GDP. It was 35.2% of GDP in Tonga; 15.3% in Gambia; 14.8% in Lesotho; 13.6% in Senegal; 13.1% in Liberia and 10.8% in Egypt. Remittances comprise a critical piece of the worldwide fund and the GDP of a few nations and are on track to turn into the biggest wellspring of outer financing in emerging nations. Throughout the most recent decade, a lot of inflow to emerging nations sent by migrants' laborers have risen relentlessly. All around 70% of inflows of remittance stream to emerging nations. Especially, the authority documented remittances traveled to unindustrialized nations $US 431.6 billion of every 2015, an expansion of 0.4% over $ 430 billion of every 2014 (World Bank, 2016). Besides, as shown by the World Bank report (2014), 232 million global migrants recorded 3.2% of the complete total populace in the year 2013. Of these figures, 36% comprised immigrants from emerging nations living in other unindustrialized nations, a marvel named south-south movement. The remittances to sub-Saharan Africa persisted at USD32billion in the year 2013, and that migrant remittances remained generally steady and might carry on contradict consistently because migrants regularly send more when the beneficiary nation is in a financial downturn. (World Bank report, 2014).

In 2017, the number of international migrants globally has been almost 258 million (or 3.4% of the global population), as per figures by the UN Population Division. The UN migration data portal shows that there were 1.3 million new immigrants from Nigeria in 2017, representing 0.6% of the total population (immigration rate is ~300,000 in the last 5 years). Although the official documents, it does not include all born to Nigerian parents in the immigrant population and still hold the nationality of their country of birth. The remittance flows to Nigeria are also included in this group. Unofficial estimates suggest that there are around 15 million Nigerians in the diaspora.

Official records show that there are 1,24 million Nigerian migrants in the immigrant community (United Nations, 2017). This estimate is probably higher in 2018 and 2019, with the massive immigration pattern from the region. Approximately half of the Nigerian adults also suggested their desire to leave the country in the next five years, as per a survey study by the pew research Centre, in 2018. Nigeria thus accounts for more than a third of the migration of migrants to sub-Saharan Africa. PwC stated that these flows contributed to US$23.63 billion (2017: US$22 billion) in 2018 and accounted for 6.1% of Nigeria's GDP. Migrants' remittances in 2018 constitute 83% of the federal government budget in 2018 and 11 times the FDI flows in the same timeframe. Nigeria's remittance inflows also were 7.4 times higher than the US$ 3.4 billion of net official development assistance (foreign aid) received in 2017. PwC forecasts that remittances to Nigeria will rise to US$ 25.5 billion, US$ 29.8 billion, and US$ 34.8 billion in 2019, 2021, and 2023. Over 15 years, PwC expects total remittance flows to Nigeria to rise almost twice in size from US$ 18.37 billion in 2009 to US$ 34.89 billion in 2023.

Growth in remittances is central to international economic pressures which might stimulate or impede the development of capital inflows, while other factors that are driving remittance flows involve migration rate growth, the competitive pressures of the residence nations, and the currency markets of the Nigerian economy. The World Bank expects global growth to slow to 2.6% in 2019. The SSA region received a small portion of world remittances in 2018, with Nigeria accounting for more than one-third of global inflows. Despite reflecting a small percent of global flows, official inflows to sub-Saharan Africa increased by 10% to $46 billion in 2018. The World Bank also forecasts that remittances to the region will rise by 4.2 percent in 2019, due to a slowdown in global growth. According to the International Monetary Fund (IMF), remittances sent to SSA via informal networks account for between 45 and 65 percent of formal flows, which are substantially higher than other countries. Pretty much across the board, remittance flows are expected to continue to increase due to two considerations: estimated robust national trading growth in 2019 and high intra-regional migrant flows from the SSA region. Thus, it is essential that the countries, particularly Nigeria, reap the benefits of this pattern in the sense of structural economic decision-making.

For several decades, governments, analysts, and development organizations didn't offer consideration regarding the idea of payments in form of remittances and its impact on economic progress via institutional quality. At the financial level, it has been indicated that reimbursements in form of remittances additionally give a critical source of overseas money, builds national pay just as account imports (Brown, Carmignani & Fayad,2013). As indicated by the 2018 reports of the world bank, however, revealed as the seventh most elevated beneficiary of internal settlements in form of remittances, Nigeria could just pull in $24.3billion which is 4% of the worldwide authority remittances inflows. Given the above contentions and apparent absence of agreement about the connection between diaspora remittances macroeconomic factors and institutional quality nexus, it along these lines of thought we find the connection between diaspora remittances macroeconomic factors and institutional quality in Nigeria. This paper therefore is divided into five sections. Section I introduction, section II Literature Review, section III Theoretical framework and Methodology, section IV Discussion of findings and section V Conclusions, and policy recommendations.

Literature Review

Countless up-to-date studies utilized quantitative macroeconomic variables to discover the factors that affect remittances. Even though numerous studies are researching diverse aspects of the association among diaspora remittances and the macroeconomic determinants of remittances, little consideration has been paid to experimental proof of investigating the effect of long-term institutional quality and macroeconomic determinants of diaspora remittances inflow in Nigeria with the underdeveloped financial sector and increasing needs for various remittances. A research carried out by Ricciardulli (2019) researched how the government reacts to remittance inflows using IV estimation techniques. The findings indicate that remittance greatly affects government expenditure policies. This finding is compatible with Majeed (2016) analysis which showed that remittances encourage corruption in highly corrupt economies in a sample of 122 countries. Tusalem (2018) included data conducted by the Philippine National Statistics Office and the National Statistical Coordinating Board of the Philippines. The objective of providing empirical data that the number of immigrants (by region) and the sum of remittances sent through immigrants are directly linked to government effectiveness. Also, Borja 2020 quantitatively demonstrated that remittances have a huge impact on human development and minimize corruption.

Furthermore, Meyer and Shera (2017) noted that remittances surpass FDI flows. The outcome of the study using regression analysis showed that remittances had a significant positive influence on economic progress. However, Cismas, et al. (2020) discovered that the diaspora remittances have insignificant influence in boosting economic development. Hassan and Shakur (2017) examined the effect of internal remittance on per capita (GDP) development in Bangladesh utilizing data from 1976 to 2012. They showed that the forwarding impact of the remittance was negative from the onset and, at a later point, the validation of positive non-direct relationship using regression analysis. They opposed to suggesting a U-shaped connection between remittances and the development of GDP per capita.

On the part of Ofeh and Muandzevara (2017), they studied the impact of remittances on Cameroon's monetary development. They used data from 1980 to 2013 the regression result showed that migrant remittances are significantly linked to money-related development. Notwithstanding, the various examinations have remained on the determining factor of payments from overseas in Nigeria, a large portion of them have concentrated on the microeconomic determining factor of remittances (for example, Nwosu et al., 2012; Olowa et al., 2012). These methods are besides inclined to endogeneity issues.

In contrast to the numerous studies carried out relating to remittances determinants, only a few other types of research have explored a negative link between remittances and other variables. Sebil and Abdulazeez (2015) for example investigated the relationship between remittances and monetary development in Nigeria for the period 1981-2011. They find that remittances significantly influence Nigeria's financial development. As time progresses, the result showed that there is a short-term negative effect. Jebran et al (2016) analyzed the impact of remittances on Pakistan's per capita growth for the period from 1976 to 2013. They used the Lag of ARDL Bounds test methodology to investigate both the short-and long-term relationship between money remittances and PCI. They identified considerable positive relations both in the long term and short-term. This implies that in the long run and short term, their considerable influence of remittances on per capita income. In another study, Meyer and Shera (2017) investigated the effects of remittances on financial development employing a panel of six high-profile remittances to countries: Albania, Bulgaria, Macedonia, Moldova, Romania, and Bosnia-Herzegovina for the time frame 1999–2013. They found out that there is a positive and considerable significant influence of remittances on the money inflows of remittances.

Furthermore, Tabit & Moussir (2016) considered the macroeconomic determining factor of migrants' remittances for 22 unindustrialized nations from 1990-2014. This investigation showed that nation's gross domestic product, the host nation's GDP growth, remittances, and institutional quality have significant consequences for individual remittances. Despite the fact the migrant's remittances accumulate, the legitimate exchange rate and the actual financing cost of the nation in the short run has an insignificant influence on the remittances. Additionally, Kosse and Vermeulen (2014) examined the determining factor of migrants' decision of remittance means while moving cash to family members abroad. The investigation demonstrated that educational cost and financing cost for development in the nation of origin are the fundamental determinants, while general money preferences and web banking use affect and constrained jobs. Mugumisi (2014) he examined the microeconomic determining factor of remittances stream to Zimbabwe. The examination demonstrates that more established aged and progressively educated immigrants are bound to remit to home nations. Odunga (2016) examined the impact of macroeconomic factors on varieties in migration transfers in Kenya. According to them, remittances have become a significant source of external trade and a key driver of financial development as underscored in the Kenya vision 2030. The examination utilizing regression estimation showed that trade level, loan costs, exchange rates, and RGDP together were accountable for the variety in the estimation of migration remittances at R2 of 63.36%. There is a direct relation between trade rates, financing costs, and migration remittances, while the indirect connection between change rate and migration remittances. Real gross domestic product has no significant relationship with remittances inflow. External trade showed that negotiation would allow investment streams to balance out by the exchange rate differences from medium to long-run periods.

Adigun and Ologunwa (2017) examined remittances in Nigeria and its consequence on economic growth from1980- 2015. The goal of the examination is to take a gander at the connection between remittances and macroeconomic factors. They analyzed the pattern of remittances in Nigeria utilizing regression analysis. They discovered that laborers remit cash to fund the use and projects of their relations. This affects the prosperity of the beneficiaries, however, the effect on financial development are innumerable.

From the review carried out, there is a great need to look at the institutional quality factors and the macroeconomic determining factor of diaspora remittances as it has both long term and short-term implications for the Nigerian economy in the post-Covid era.

Research Methodology

Theoretical Framework and Model Specification

This paper is anchored on the Harrod & Domar Model and the segmented (dual) labor market theory of migration. These theories in development and growth models emerged according to Keynesian writing, growth, and development models (Harrod, 1939, Domar, 1946). As indicated by Keynes in the short run, the prevailing significance of investment is its impact on the prevailing application and the supply of capital. This might remain taken as given and autonomous of it. Be that as it may, over the long run, it tends to change since investment consumption augments capital stock.

The model clarifies the connection between reserve funds proportion (SR), capital-yield proportion (COR), and monetary development (Iyoha et al, 2002). Where the capital-yield proportion (COR) is the capital unit required to create a yield unit, though the investment funds proportion is the all-out reserve funds proportion to national pay. The Harrod – Domar Model is portrayed as a cutting-edge model since it has no worked in stabilizers that will in general move an economy back to a full-business harmony pace of development once it has veered off from it.

Harrod-Domar Growth Model is elementary hypothesizes that alterations in national income ΔY be contingent directly on changes in capital stock K and that speculation or changes in capital stock is financed out of household reserve funds S in the shut economy rendition of the model i.e ΔK = S. The model states that household investment funds S itself rely upon national salary Y, for example

S = sY, where s is the sparing proportion of salary:

$\Delta Y = b\Delta K$

$\Delta K = S = sY$

Substituting

$\Delta Y/Y = sb$

In light of the hypothetical model of this examination and using an adapted model to deal with model specification, the model is framed and augmented with different factors. The model was adapted from the work of Tabit and Moussir (2016); Odunga (2016) and Adigun and Ologunwa (2017). To accomplish the goal of finding out the effect of dynamic interactions of macroeconomic determinants on diaspora remittances inflow in Nigeria, the ARDL model is composed and the functional is written below as:

$$\text{Rem} = f(Gdp, Exr, Nmi, Infr, Intr, Unem, cc, Ps, Rq) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.1)$$

In an econometric form, this functional relationship using the ARDL is written below as:

$$Rem = \beta_0 + \beta_1 Gdp + \beta_2 Exr + \beta_3 Infr + \beta_4 Intr + \beta_5 Unem + \beta_6 Nmi + \beta_7 Cc + \beta_8 Ps + \beta_9 Rq + \mu \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.2)$$

$$Gdp = \beta_0 + \beta_1 Rem + \beta_2 Exr + \beta_3 Infr + \beta_4 Intr + \beta_5 Unem + \beta_6 Nmi + \beta_7 Cc + \beta_8 Ps + \beta_9 Rq + \mu \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.3)$$

$$Exr = \beta_0 + \beta_1 Rem + \beta_2 Gdp + \beta_3 Infr + \beta_4 Intr + \beta_5 Unem + \beta_6 Nmi + \beta_7 Cc + \beta_8 Ps + \beta_9 Rq + \mu \ldots\ldots (3.$$

$$Infr = \beta_0 + \beta_1 Rem + \beta_2 Gdp + \beta_3 Exr + \beta_4 Intr + \beta_5 Unem + \beta_6 \mathrm{Nmi} + \beta_7 Cc + \beta_8 Ps + \beta_9 Rq + \mu \ldots\ldots (3.5)$$

$$Intr = \beta_0 + \beta_1 Rem + \beta_2 Gdp + \beta_3 Exr + \beta_4 Infr + \beta_5 Unem + \beta_6 Nmi + \beta_7 Cc + \beta_8 Ps + \beta_9 Rq + \mu \ldots\ldots (3.7)$$

$$Unem = \beta_0 + \beta_1 Rem + \beta_2 Gdp + \beta_3 Exr + \beta_4 Infr + \beta_5 Intr + \beta_6 Nmi + \beta_7 Cc + \beta_8 Ps + \beta_9 Rq + \mu \ldots\ldots (3.8)$$

$$Nmi = \beta_0 + \beta_1 Rem + \beta_2 Gdp + \beta_3 Exr + \beta_4 Infr + \beta_5 Intr + \beta_6 Unem + \beta_7 CC + \beta_8 Ps + \beta_9 Rq + \mu \ldots\ldots (3.9)$$

$$CC = \beta_0 + \beta_1 Rem + \beta_2 Gdp + \beta_3 Exr + \beta_4 Infr + \beta_5 Intr + \beta_6 Unem + \beta_7 Nmi + \beta_8 Ps + \beta_9 Rq + \mu \ldots\ldots (3.10)$$

$$Ps = \beta_0 + \beta_1 Rem + \beta_2 Gdp + \beta_3 Exr + \beta_4 Infr + \beta_5 Intr + \beta_6 Unem + \beta_7 Nmi + \beta_8 Cc + \beta_9 Rq + \mu \ldots\ldots (3.11)$$

$$Rq = \beta_0 + \beta_1 Rem + \beta_2 Gdp + \beta_3 Exr + \beta_4 Infr + \beta_5 Intr + \beta_6 Unem + \beta_7 Nmi + \beta_8 Cc + \beta_9 Ps + \mu \ldots\ldots (3.12)$$

Where:
Rem: Migrant remittances recognized equals the proportion of gross domestic product;
Gdp: Domestic nation's gross domestic product per capita
Exr = Domestics exchange rate
Infr = Domestic inflation rate;
Intr = the interest rate of the domestic nation.
Unem = the Nigerian unemployment rate
Nmi = Net migration of home country
PS = Political Stability and Absence of Violence / Terrorism represented by institutional quality
Rq= Regulatory quality represented by institutional quality.
Cs= Control of corruption
β0=constant term or intercept
β_1-β_9 =Slope of the parameter estimates or coefficient.
μ = stochastic error term with the usual normality assumption

To accomplish the research hypothesis of evaluating the effect of institutional quality on the remittance inflow in Nigeria. Institutional quality in this study is represented by political stability and the absence of violence/terrorism, regulatory quality, and control of corruption while remittances are represented by total inflows of remittances in Nigeria.

Estimation Techniques

ARDL Technique

This examination utilized the unit root test to analyze the stationarity or non-stationarity of the individual factors established from the model above. This is since most econometric examinations throughout the years have indicated that generally monetary and macroeconomic factors used often exhibit non-stationary and using such prompts misleading results as clarified by Engel and Granger (1987). In this investigation, the utilization of the Augmented Dickey-Fuller was tested embraced the individual data collection. The test was performed dependent on the accompanying model:

$$\Delta y_t = \alpha_0 + \alpha_1 y_{t-1} + \sum_{i=1}^{n} \alpha_1 \Delta y_i + e_t$$

Hence,

Δ =first difference operator

n = optimal number lags

et= disturbance term chosen as a white noise error,

y= time series that is the dependent and the independent variables

ADF means Augmented Dickey-Fuller at 5% level

After determining the level of stationarity of the variables, the Auto-Distributed Lag Model (ARDL) is used to examine long-term and dynamic interactions between the institutional quality and macroeconomic determinants of diaspora remittances inflow in Nigeria. The ARDL model to multivariate cointegration test results or a bound cointegrating methodology is used when a single co-integrating vector exists. The model of co-integration of Johansen and Juselius (1990) was not used in this analysis since the state of stationarity of the variables. Consequently, Pesaran and Shin (1995) and Pesaran et al (1996b) suggested the ARDL technique of long-term co-integration testing, regardless of the macroeconomic indicators I (0), I (1), or a combined effect of the same. In the case that a cointegrating vector is visible, the ARDL form of the cointegrated vectors is re-parameterized into the Error Correction Mechanism.

Sources, Description, and Measurement of Variable

The type of data to use in the analysis is secondary times series data gotten from the CBN bulletin, World governance indicators, and World bank Data base 2018 which are all expressed in their respective units in terms of the units of measurement of the variables captured in the model.

Discussion of Result

Unit Root Test

Most economic variables are volatile and possess unit root properties which if used for estimation may likely lead to spurious results. Hence, the need to ascertain the stationarity of the variables to ensure reliable estimations. This work was used by the Augmented Dickey-Fuller (ADF) to uncover the stationarity condition of the parameters. The Augmented Dickey-Fuller test is utilized to evaluate whether or not the measurements of the identified explanatory variables are static. The measurements were very well-thought-out if the maximum value derived from the ADF test is greater than the absolute MacKinnon factors. However, relevant factors have been considered non-stationary if the exact value of the unit root test is not equal to that of the MacKinnon values in real numbers. The alternative hypothesis for the response variable has the root unit.

Table 1: Augmented Dickie Fuller Unit Root Test

ADF Unit Root Test			
Variables	***Levels***	***1st Difference***	**Order**
REM	-1.4438	-6.1804 *	I1
GDP	-0.5512	-3.5172 **	I1
EXR	-1.9799	-4.1101 *	I1
INFR	-2.8592	-5.5147 *	I1
INTR	-7.0680 *	-9.5410 *	I0
NMI	-2.6269	-8.6280 *	I1
UNEM	-2.0898	-4.2487 *	I1
CC	-1.3061	-5.8897 *	I1
PS	-0.8476	-6.3937 *	I1
RQ	-1.5193	-6.3285 *	I1

Critical Values		*ADF z(t)*	
	1%	5%	10%
	-3.63	-2.94	-2.61

Source: Author Computation, 2020

The ARDL estimation analysis depends on the data elements of the time series as presented in table 1 above. It is to guarantee that the integration order of the stationary is independent of the I (2) sequence to avoid misleading data that are unstable and contradictory. Our factors of interest predetermined sequence incorporate both levels I (0) and 1st difference I (1) for the ADF test. Abstruseness in the integration order of the sequence supports the use of such an ARDL bound test above all other alternative cointegrating vector methods. Hence this study adopts the Autoregressive distributed lag (ARDL) estimation method. The result of the unit root signifies a stationary at levels for interest rate while all other variables became stationary after first differencing at a 5% significance level. Hence, remittances, GDP per capita, exchange rate, inflation rate, net migration, unemployment, and all institutional quality variables adopted are the I1 series.

Table 2: Lag Length Criteria

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-1295.739	NA	1.20e+20	74.61364	75.05802	74.76704
1	-1024.614	371.8278*	8.48e+15	64.83510	69.72333*	66.52252
2	-885.1209	111.5947	4.59e+15*	62.57834*	71.91043	65.79977*

Source: Author Computation, 2020

Bound Test for Long run Cointegration

This study performs the ARDL bound testing but with prior analysis of the lag length selection using the lag length criteria of the unrestricted VAR model. The consistency of the sequential modified final prediction error, Akaike information criterion, and the Hannan-Quinn information criterion suggests this study adopts a lag of 2 for its estimation. The subsequent results examine whether there is long-term convergence between the different factors that were examined. This finding is provided in the table below, showing the long-term result of the ARDL bound statistical test, and estimating the Bound test co-integration method for our model. The outcomes demonstrate that there is long-term convergence between the obtained remittances and the selected macro-economic variables. The bound test value of the statistic f is greater than the critical bound I1 at a 5 percent point of significance. This implies the existence of a long-term correlation between the independent under examination.

Table 3: ARDL Bound Test

Null Hypothesis: No Long-Run Relationships Exist		
Test Statistics	**Value**	**k**
F-statistics (M1)	3.340	9
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	1.8	2.8
5%	2.04	2.08
2.5%	2.24	3.35
1%	2.5	3.68

Where k is the number of regressors

Source: Author Computation, 2020

Table 4: Long Run Result for the impact of selected macroeconomic variables on remittances received in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
REM (-1)	-0.8954	0.2333	-3.8384	0.0033
GDP	-0.0052	0.0019	-2.6535	0.0292
EXR	0.0050	0.0013	3.7267	0.0041
INFR	-0.1193	0.0595	-2.0049	0.0728
INTR	-0.1841	0.0703	-2.6201	0.0256
NMI	0.0000	0.0000	2.2404	0.0490
UNEM	0.1979	0.1336	1.4814	0.1693
CC	8.2440	2.5690	3.2090	0.0093
PS	-8.6683	2.3128	-3.7480	0.0038
RQ	-0.3607	2.8919	-0.1247	0.9032
C	11.2107	4.9404	2.2692	0.0466

Source: Author Computation, 2020

Table 5: Short Run Result for the impact of selected macroeconomic variables on remittances received in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (REM (-1))	0.2590	0.0993	2.6083	0.0261
D(EXR)	-0.0034	0.0019	-1.8218	0.0985
D (EXR (-1))	0.0064	0.0026	2.4669	0.0333
D(INFR)	-0.0551	0.0139	-3.9730	0.0026
D (INFR (-1))	0.0363	0.0095	3.8039	0.0035
D(INTR)	-0.0478	0.0175	-2.7278	0.0213
D (INTR (-1))	0.0251	0.0097	2.6032	0.0263
D(NMI)	0.0000	0.0000	2.1091	0.0611
D(UNEM)	0.6253	0.1248	5.0116	0.0005
D(CC)	-1.1865	1.4005	-0.8472	0.4167
D (CC (-1))	-2.5478	0.7941	-3.2085	0.0094
D(PS)	-2.7340	0.8524	-3.2075	0.0094
D (PS (-1))	3.8735	0.7369	5.2565	0.0004
D(RQ)	7.5195	0.9708	7.7454	0.0000
CointEq(-1)*	-0.8954	0.1045	-8.5714	0.0000
R-squared	0.8750	Mean dependent var		0.1669
Adjusted R-squared	0.7875	S.D. dependent var		1.3542
S.E. of regression	0.6243	Akaike info criterion		2.1932
Sum squared resid	7.7952	Schwarz criterion		2.8598
Log likelihood	-23.3807	Hannan-Quinn criter.		2.4233
Durbin-Watson stat	2.4682			

Source: Author Computation, 2020.

Discussion of Results and Comparison with the Previous Study

The investigation of the long run interactions amongst institutional quality and macroeconomic determinants of diaspora remittances in Nigeria was achieved using the ARDL bound cointegration test. From the bound test, the f – statistics is greater than the I1 critical bound at 5%. This affirms that there are long-term institutional quality and macroeconomic determinants of diaspora remittances in Nigeria. The outcome of this examination is obtainable in table 4 and 5 that showed both the short and long-run relationship of institutional quality and macroeconomic determinants of diaspora remittances in Nigeria. From the long-run result, remittances received at first lag showed a negative significant relationship with the current level of remittances which signifies and buttresses the point that a larger percent of remittance received is consumed and does not contribute to the current level of remittances. For the macroeconomic determinants, while GDP per capita of the home-based country, inflation rate, and interest rate exerts a negative relationship, exchange rate, net migration exerts a positive significant relationship with remittances received. However, unemployment exerts a non-significant relationship with remittances.

Precisely, the findings show that a 1 % rise in GDP per capita leads to a reduction in remittance received by 0.005% in Nigeria. This result implies that a propelling economic growth in Nigeria will likely reduce the incentives for citizens living in Nigeria to seek financial aid from family and friends residing abroad. This means that the higher the growth of the home country the lesser the remittances generated as shown for the developed nations and the case of emerging nations specifically African countries. Also similar is the result of the inflation rate and the rate of interest. These results show that a 1% in the inflation rate will reduce remittance by 0.119% and similarly a 1% rise in interest rate exert a 0.184% reduction in remittances received. This result implies that when inflation increases the value of remittances received will likely deteriorate.

In contrast to the result, the exchange rate shows a positive significant relationship with remittances inflows in Nigeria. This implies that a 1% increase will increase remittances by 0.005% because if there is a higher exchange rate discrepancy among the domestic country and the host country of the sender, remittances received by the home country is expected to increase. The result of net migration is also synonymous with that of the exchange rate because a higher exchange rate differential is one of the propellants of outward migration present in Nigeria. A 1% increase in a net migration increase remittances by 0.0000103 % because people abroad want to compensate back the family and friends in the home country. The result of unemployment shows insignificant. In conclusion, this result implies that in the long run, macroeconomic determinants are significant factors determining remittances received.

While the above explanations centered on the long-run impact of institutional quality on macroeconomic determinants of diaspora remittances, the short-run results clearly showed the presence of short-run implications. In essence, the coefficients of the cointegrating equation are negative and significant at the 5% level. Hence, the speediness of adjustment from an earlier long run disturbance is 0.90%. This shows that the speed of adjustment is very rapid. Precisely, for the nature of relationships, the exchange rate at its first lag, inflation at current and first lags, the interest rate at current and first lag, and unemployment at the current period are significant determinants of remittances at a 5% level of significance.

Furthermore, institutional quality represented by control of corruption, political stability, and the regulatory quality shows that only control of corruption and political variable has significant relation although with an unequal sign with remittances received in Nigeria while the result of regulatory quality is non-significant. Specifically, a 1% increase in control of corruption will reduce remittances by 8.24%. This implies that the fear of funds remitted to the home country been used against the purpose for which it was sent is a major hindering factor of getting remittances. Hence, if these barriers are eliminated and corruption levels are reduced remittances will increase. For political stability, an increase in political unrest in the home country is likely to reduce the level of remittances received. This is because of the fear of loss of investment that is sometimes associated with countries with high political instability. In conclusion, this result concludes that increasing levels of institutional quality is a relevant determinant of remittances received in Nigeria. The consequence of this investigation in tandem with the work of Tabit and Moussir (2016) that demonstrated that the host nation's GDP, inflation rate, monetary development, and institutional quality had huge impacts on the home country remittances.

Moreover, Marwan et al. (2013) utilize the Johansen co-integration method within the Solow-model framework to deal with the role of export, FDI, and remittances relative to financial development in Sudan. The investigation discovered long runs a positive connection between remittances and the growth of the Sudan economy. Our findings made is additionally reliable with the work of Hasan and Hashmi (2015) who investigated the factors affecting worker remittance of Bangladesh. The outcomes indicated that any adjustments in the quantity of the work power, customer value file (CPI), import, government spending, and d energy about host nations' money can affect the internal remittances pay of Bangladesh.

Besides, the outcome of our studies likewise is consistent with the work of Odunga (2016) who explored the impact of macroeconomic factors on varieties in diaspora remittances in Kenya. The outcome indicated that there is an immediate connection between trade rates, financing costs, and diaspora remittances while the circuitous connection between exchange rate and diaspora remittances. Regarding the GDP, the outcome is conversely as Odunga (2016) found no huge relationship for financial development.

Policy Recommendations and Conclusion

From the findings deduced from our research, it is concluded that macroeconomic variables such as exchange rate, inflation, GDP, unemployment rate, and interest rate are critical determinants of remittance inflows in Nigeria. Total net migration from the findings is also a critical factor influencing the volumes of remittances inflow in Nigeria. This study further concluded that increasing levels of institutional quality is a germane factor of remittances acknowledged in Nigeria. Therefore, the control of corruption, political stability, and regulatory quality in Nigeria is likewise identified as relevant factors affecting the remittances inflows into the country. Hence, it is suggested that: the legislature should give the incentive to nationals living abroad to send out to the nation for business and help to relative deserted.

To pull in more remittances, policymakers should think progressively about actualizing steady and master development strategies. It is, consequently, prescribed to devise methodologies planned for accomplishing a higher and continued pace of financial development, improved budgetary market improvement, and stability of macroeconomic variables in Nigeria.

The government in all her capacity must improve on the governance and effectiveness in terms of institutional quality. The outcome reflects that the three measurements of institutional quality in control of corruption, political stability, and regulatory quality show that control of corruption and political stability have significant relation although with an unequal sign with remittances received in Nigeria. Even though, the result of regulatory quality is non-significant. The government must make the institutions free of corruption and work towards the achievement of political stability as it has larger implications on the remittance's inflows in Nigeria. The stability of macroeconomic outcomes both in the short run and the long run is critical towards the improvement of remittances inflows in Nigeria.

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Appendix

Column1	Column2	Column3	Column4	Column5	Column6	Column7
YEAR	GDP	INFR	NMI	REM	REM2	EXR
1981	1741.715	20.81282	0	0.009843	16188874	323.5215
1982	1581.562	7.697747	-671640	0.012481	17818397	331.7945
1983	1373.537	23.21233	-671640	0.014217	13804340	392.7125
1984	1324.297	17.82053	-671640	0.015978	11741263	541.4648
1985	1367.119	7.435345	-671640	0.013655	10069659	486.7959
1986	1332.805	5.717151	-671640	0.00728	3989688	265.927
1987	1339.813	11.29032	-91407	0.0052	2739018	84.7129
1988	1400.734	54.51122	-91407	0.004883	2424527	86.04183
1989	1390.805	50.46669	-91407	0.023143	10183666	76.96334
1990	1515.013	7.3644	-91407	0.018522	10008540	71.61963
1991	1482.221	13.00697	-91407	0.133442	65544714	60.57468
1992	1512.248	44.58884	-95769	0.118105	56448404	50.16845
1993	1444.846	57.16525	-95769	2.857986	7.93E+08	54.87048
1994	1383.689	57.03171	-95769	1.625253	5.50E+08	101.4317
1995	1348.681	72.8355	-95769	0.567474	2.50E+08	161.4496
1996	1370.726	29.26829	-95769	0.580681	2.97E+08	209.2543
1997	1376.302	8.529874	-95027	1.075582	5.86E+08	238.0315
1998	1377.09	9.996378	-95027	0.821453	4.49E+08	275.294
1999	1350.984	6.618373	-95027	2.19134	1.30E+09	69.77832
2000	1383.666	6.933292	-95027	2.004105	1.39E+09	70.75906
2001	1429.197	18.87365	-95027	1.57586	1.17E+09	78.8467
2002	1607.238	12.87658	-170000	1.267441	1.21E+09	79.1034
2003	1682.1	14.03178	-170000	1.01306	1.06E+09	74.29869
2004	1791.262	14.99803	-170000	1.666399	2.27E+09	75.97681
2005	1857.926	17.86349	-170000	8.311897	1.46E+10	87.03164
2006	1919.724	8.239527	-170000	7.171478	1.69E+10	92.28545
2007	1993.097	5.382224	-300000	6.535832	1.80E+10	91.35623
2008	2072.273	11.57798	-300000	5.697714	1.92E+10	100.4769
2009	2179.989	11.53767	-300000	6.293032	1.84E+10	92.65123
2010	2292.445	13.7202	-300000	5.43392	1.97E+10	100
2011	2350.337	10.84003	-300000	5.02441	2.06E+10	100.529
2012	2384.954	12.21778	-300000	4.471927	2.05E+10	110.5187
2013	2476.864	8.475827	-300000	4.038542	2.08E+10	117.41
2014	2563.9	8.062486	-300000	3.659826	2.08E+10	124.489
2015	2563.149	9.009387	-300000	4.27789	2.12E+10	119.0393
2016	2456.306	15.67534	-300000	4.863317	1.97E+10	110.1676
2017	2412.367	16.52354	-300000	5.855216	2.20E+10	100.8174

INTR	UNEM	PS	RQ	CC
-65.8571	7.062	0	0	0
-4.58618	7.062	0	0	0
-8.02239	7.062	0	0	0
4.342493	7.062	0	0	0
2.343231	7.062	0	0	0
4.310292	7.062	0	0	0
-4.76964	7.062	0	0	0
-2.96268	7.062	0	0	0
-6.61241	7.062	0	0	0
17.46624	7.062	0	0	0
0.990847	7.062	0	0	0
-14.9872	6.86	0	0	0
-7.05247	7.367	0	0	0
-15.9202	7.665	0	0	0
-31.4526	7.562	0	0	0
-5.26078	7.63	-1.05546	-0.96823	-1.18901
12.12661	7.715	-1.05546	-0.96823	-1.18901
11.48467	7.749	-0.58637	-0.95247	-1.15775
6.047248	7.779	-0.58637	-0.95247	-1.15775
-1.14089	7.706	-1.45614	-0.74795	-1.21868
12.1387	7.964	-1.45614	-0.74795	-1.21868
3.023542	8.264	-1.62512	-1.21619	-1.43123
9.935713	8.291	-1.634	-1.24547	-1.36208
-2.60485	8.068	-1.75399	-1.35197	-1.34182
-1.59368	8.04	-1.66719	-0.76062	-1.15872
-5.62797	7.792	-2.03414	-0.90726	-1.12363
9.187171	7.575	-2.01133	-0.88902	-1.053
6.684909	7.724	-1.86063	-0.80224	-0.89188
18.18	8.58	-1.99507	-0.74609	-1.03173
1.067736	8.84	-2.21112	-0.72745	-1.04892
5.68558	9.436	-1.95645	-0.68118	-1.17297
6.224809	10.042	-2.04207	-0.71244	-1.16913
11.20162	10.895	-2.08848	-0.65963	-1.22126
11.35621	13.479	-2.13028	-0.81638	-1.2747
13.59615	16.626	-1.92544	-0.85052	-1.07939
6.686234	19.909	-1.87771	-0.91889	-1.02501
5.790567	19.277	-1.99883	-0.8855	-1.07675

Sources: World Bank and World Governance, 2017.

Pollution Haven Hypothesis (Phh) Revisited for the BRICS Economies

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Abstract: *This study analyzed the reality or otherwise of pollution haven hypothesis in BRICS countries using panel data spanning from 1990 to 2018. The study used net exports and foreign direct investments as measures of economic activity (dependent variables for the two models) and stringency in environmental regulation while other determinants of trade were captured as independent or control variables. The other model that has foreign direct investment as dependent variable also has infrastructure, income and trade openness as control variables. Cointegration, panel least squares and Panel generalized method of moments (PGMM) were used in analyzing the data. A year lag of the dependent variables was included as one of the independent variables of the models to capture dynamism (Blundell and Bond, 1998). The study confirmed the existence of pollution haven hypothesis true for the BRICS countries. The agglomeration effects of FDI and trade were also confirmed by the study among others. The study recommends that governments of BRICS countries must weigh the beneficial impact of trade and FDI against the pollution impact of 'dirty' trade and investments before deciding or setting its environmental policy. There is a great need for them to tighten their environmental laws and also strengthened the enforcement agencies so as to make those regulations effective.*

Keywords: Pollution Haven, PGMM, Environmental Stringency, Foreign Direct Investments, Trade.

Introduction

Pollution haven hypothesis implied that differences in stringency in environmental regulations are the major motivation for trade and foreign direct investments (FDI). Some scholars proposes that pollution haven hypothesis is unfounded because pollution costs are relatively small compared with the total costs of goods and that multinational companies that produces in both developed and developing countries do not want to be categorized as the originators of dirty production processes to developing countries. They therefore conclude that stricter environmental regulations do not impact substantially on trade patterns (Tobey, 1990; and Xu, 2000). In addition to these, most trade flows takes place between either developed to developed countries and; between developing to developing countries. Secondly, some industries are therefore least likely to relocate to other countries. In addition, environmental regulation costs are small in proportion to the production costs (Ederington et. al., 2005). There are also some who are of the opinion that trade and FDI flows promote environmental performance. This is known as pollution halo hypothesis. Halo hypothesis postulates that the inflows of FDI promote the development of cleaner technologies and productions.

This study therefore is aimed at studying the existence or otherwise of pollution haven hypothesis of the BRICS countries. BRICS countries are; Brazil, Russia federation, India, China and South Africa. BRICS countries are different one from one another in terms of culture, language, background and economic structure; however, they are similar in terms of economic growth. According to Ghouah, Belmokaddem, Sahraoui and Guellil (2015) economic growth in BRICS has greatly exceeded growth of the world's industrialized economies. Even after the economic recession of 2007, they continue to outperform other World economies. While the World economy shrank on the average by 6% , India grew by 5.9%, Brazil remains steady. China grew by 8.1% only Russia shrank by 7%. BRICS are projected to grow more than the G-7 countries. BRICS accounted for 25 percent of the earth's land surface and 40 percent of the World's population, (Wu, 2011).

BRICS is projected to lead the suppliers of manufactured goods, services and raw materials by 2050 due to availability of low labour and production costs. In addition, many companies also cite BRICS nations as their sources of foreign expansion or FDI opportunities since they are promising economies with great potentials for the thriving FDI. Due to the expected growth in size of the BRICS economies, their large populations, and their influence in global policies, the decisions they make has serious effect on the future of global environment.

According to Wu (2011), in 2008, the four initial BRIC countries (excluding South Africa) accounted for over one- third of global carbon emission emanating from deforestation and other unfriendly land activities (these are not accounted for). When deforestation and land use carbon generation are factored in, the size of emission becomes bigger. According to Wu, In Brazil for instance, unsustainable land use practice generated seventy five percent of total emissions as deforestation has considerably lowered the country's Carbon sink thereby increasing Carbon emission by Six billion metric tons.

According to the international energy Agency, coal use (which is pollution-intensive) will more than double in India and China by 2050. The current level of Industrialization in BRICS is the fossil fuels dependant and this is more pronounced in Brazil, India and China. The continued use of fossil fuels in this bloc has devastating consequences in the form of climate change. According to Wu, part of the consequences of climate change projected for India is that wheat production might decline by four to five million tons for every one degree Celsius increase in average temperature and in a country with projected increase of 300 million people within two decades, this translates to a great threat to the global food security.

According to d'Almedia (2017) BRICS have initially been marginalized and have been victims of western growth, but they themselves have become major energy consumers as well as pollution generators. This may be due to a number of factors which include greater FDI inflows and trade liberalization.

Table 1: Environmental performance index (EPI) of BRICS 2018

Country	Ranking	EPI	Environmental health	Ecosystem validity	Air pollution
Brazil	69	60.7	67.44	56.21	37.55
Russia	52	63.79	75.48	55.99	77.78
India	177	30.57	9.32	44.74	37.49
China	120	50.74	31.72	63.42	57.08
South Africa	142	44.73	36.81	50.01	34.67

Source: Environmental performance index (2018)

Based on the environmental performance index in table1, despite the position of BRICS in the production of world output, their performance in terms of environmental performance index is far from being satisfactory. The best performing country of them all is the Russia Federation with a ranking of 52nd in the world. The worst performing country is India with the dismay ranking of 177 in the world. This shows that the environmental performance of BRICS bloc is very poor. Looking also at the (EPI) for the air pollution, South Africa, India and Brazil performed so poorly while China's performance is just fair. The bloc's performance in terms of pollution intensity can also be seen in table 2.

Table 2: Pollutant intensity in BRICS

Country	Sulphur Oxide	Nitrogen Oxide	Carbon dioxide	Methane emissions	Nitrous Oxide	Black Carbon
Brazil	52.49	22.6	21.07	68.37	54.38	24.27
Russia	77.88	77.68	51.59	54.62	42.35	85.29
India	60.12	54.05	63.24	99	99.89	61.84
China	32.60	42.37	38.82	80.10	67.49	48.70
South Africa	31.66	37.68	46.34	59.48	52.60	34.42

Source: Environmental performance index (2018)

On a general view, Brazil, Russia, India, China performed seriously below expectation in terms of environmental performance. Only South Africa has a fairly good performance in terms of intensity while India's performance is the least of all members of the bloc. BRICS countries are signatories to Kyoto protocol with commitment to reduce emission level, however, there are some environmental concerns in those countries.

.This then raise the question of how well are the inward FDI as well as trade flows into the bloc in terms of environmental performance? Is the tremendous boost in trade and FDI not connected with lax in environmental policy and implementation?

This study therefore set out to empirical test the relationship between environmental stringency and export flows (Martinez-Zarazoso, Vidovic and Viocu, 2016) as well as the relationship between environmental stringency and foreign direct investments' inflows in order to know the impact of strictness of environmental policy on trade and FDI for BRICS countries.

Literature Review

Various studies have been conducted on pollution haven hypothesis, some using FDI inflows as dependent variable while others used net exports. In the like manner, there is no general agreement on the measurement of environmental stringency in all these studies. Some researchers have used; permit fees, emissions limits, environmental taxes or fees, regulatory delays, measurement of pollution, public awareness of environmental problems, environmental agencies' budgets, and international environmental agreements joined by the country among other measures. This study reviews some of the earlier studies so as to learn one thing or the other from the previous studies..

Aliyu (2005) evaluates the impact of dirty FDI on host economies using the annual data on carbon dioxide total emission, and total emission on particulate matters, increasing temperature and total energy use. The study used disaggregated data and panel data finds environmental policy as positively correlated with FDI outflow in 11 OECD countries. However, FDI inflow insignificantly explains pollution level and energy use in 14 OECD countries.

Levinson and Taylor (2008) use data for United States regulation and trade with Mexico and Canada to test for pollution haven. They find the pollution control expenditures have significant effects on the flows of trade. They further commented on the issues of aggregation, endogeneity and country heterogeneity and unobserved heterogeneity. All the enumerated factors they stated can bias results of pollution haven studies.

Ayadi (2019) investigates the reality or otherwise of pollution haven hypothesis as well as factor endowment hypothesis in nine West African countries using panel data from 1990 to 2014. The study used net exports as a measure of economic activity (dependent variable) and carbon dioxide emission as a measure of regulatory stringency while other determinants of trade were captured as independent or control variables. The study used the fixed effect model with both time and cross sectional dummies. The study finds the existence of pollution haven hypothesis as well as factor endowment true for West Africa.

Agrawal and Saxena (2012) Utilize input output approach to analyze whether or not India is a pollution haven under some assumptions. They first analyzed the determinants of trade flows and further calculated the impact of changes in CO_2, NO_x and SO_2 emissions on imports and exports. They found that India gains from increased trade via environment suggesting that pollution haven hypothesis is no more applicable to India. This finding is also true when their assumptions are relaxed indicating that their findings are not sensitive to assumptions made.

Da Silva, Flavio and Carlos (2019) investigated the existence of Environmental Kuznets curve (EKC) and pollution haven hypothesis (PHH) as well as the business cycles for the BRICS countries (Except

Russia) using the auto regressive distribution lag (ARDL) for annual data ranging from 1961 to 2013. They found a mixed result concerning the existence of pollution havens for China and Non existence for South Africa, Brazil and India.

Shao, Wang, Zhou and Balogh (2019) examined the existence of pollution haven hypothesis (PHH) using data from 1982 to 2014 for BRICS (Brazil, Russia, India, China and South Africa) and the MINT (Mexico, Indonesia, Nigeria and Turkey) testing the casual relationship between inward FDI and environmental pollution. The study also conducted panel vector error correction model (VECM) and co integration for the two groups. Results indicate bidirectional positive causality between inward FDI and environmental pollution. The study also conducted panel vector error correction model (VECM) and cointegration for the two groups. Results indicate bidirectional positive causality between inward FDI and per capita GDP for the two groups indicating the existence of virtuous cycle of FDI- growth nexus. The two groups also exhibited bidirectional negative causality between FDI inflow and the environmental pressure that suggest the Non-existent of pollution haven for the two groups. They also found trade openness as promoting inward FDI flows.

Zhou, Sirisrisakulchai, Liu, Sriboonchitta, (2019) investigated the effect of economic growth on foreign direct investment (FDI) and on carbon dioxide emission in order to test the validity or otherwise of the existence of pollution haven and environmental kuznet's curve (EKC) for G7 countries (Canada, United states, United kingdom, France, Italy and Germany) as BRICS countries. The study utilized data from 1992 to 2014 using the quantile regression to capture the unobserved heterogeneity and distributional heterogeneity. Their results show differences across quantiles. They found impact of FDI on carbon emission as supporting pollution haven in the BRICS countries among the findings.

To, Ha, Nguyen and Vo (2019) conducted a study on the impact of the foreign direct investment on environmental degradation and to test the validity or otherwise of EKC in same 25 emerging Asia markets using data from 1980 to 2016. The study utilized the panel cointegration, fully modified ordinary least squares (FMOLS) which addresses the endogeniety problem. The study also uses the panel dynamic ordinary least squares to also correct for endogeniety problems .The study found that pollution haven hypothesis and EKC is valid for the region. In addition, FDI impacted negatively on the environment.

Ahmad and Xiaoyan (2016) examined the role of environmental Kuznets curves (EKC) and pollution haven hypothesis (PHH) a comparative overview of developing and developed countries using the descriptive statistics of estimation. Their results show a mixed results as results vary from country to country. However, the applicability of theories depends on whether developed or developing as well as whether or not there are stringent regulations in place as well as the presence of propensity to adhere strictly to regulations.

Shao (2017) analyzed the relationship between foreign direct investment (FDI) and carbon intensity in order to test the existence of pollution haven hypothesis or pollution halo for 188 countries for the period 1990 to 2013. The study employed the dynamic panel data analysis and system generalized method of moment to solve the endogeniety problem. The study found a significant negative FDI impact on carbon intensity after introducing many control variables such as share of fossil fuel, industrial intensity, urbanization and level of trade openness. The study therefore negates the existence of pollution haven hypothesis and support pollution halo hypothesis.

Jun, Zakaria, Shahzad and Mahmood (2018) analyzed the effect of FDI on pollution in china using data from 1982 to 2016. The pollution variables used are; carbon dioxide and sulphur dioxide and they applied the wavelet tool in the study. Their results found that the FDI positively affected the population highly in the short run (during 1980s and after 2000) and affected it at low frequency in the long run. This shows that FDI has created pollution haven in China. The spectral causality result also suggests that China FDI causes carbon dioxide emissions. They concluded that stringent environmental rules are needed to control inflows of dirty FDI in China.

Murthy and Gambhir (2018) analyzed the EKC and pollution haven hypothesis for India between 1991and 2014 using the regression analysis. They ran non linear regression model (quadratic and cubic) and added FDI as explanatory variable. The study found a cubic form of model as the most appropriate model. They also established the existence of pollution haven hypothesis for India.

Ghouali, Belmokaddem, Sahraoui and Guellil (2015) analyzed the relationship existing between total energy consumption, FDI, economic growth and carbon dioxide emission for the BRICS countries using data from 1990 to 2012 utilizing co-integration and panel granger causality. Their results showed a unidirectional casualty running from carbon dioxide to the GDP, FDI and energy consumption. They also found that FDI directly affected economic growth but has no direct effect on carbon dioxide emission within these countries. This implies that FDI is beneficial by increasing economic growth and also reducing carbon dioxide emission through changes in policy and practice.

Ben-David, Kleimer and Viehs (2018) explored the role of exports on pollution level using novel micro data of firms’ carbon dioxide emission level on home and foreign countries. The study found that firms headquartered in countries with stricter environmental policies do more of their polluting activities abroad in countries with relatively weaker policies than they do at home indicating the existence of pollution haven. The effect of pollution haven is more pronounced for firms in the pollution-intensive industries and with poor corporate governance. Although firms export pollution, they reduce emission in response to strict environmental policies at home.

Most of the earlier studies focused on a given economic (FDI and trade) activity as affected by pollution with just few concentrating on the effect of environmental regulation on the given economic activity which is the postulates of pollution haven hypothesis. This study differs as it evaluates impact of stringency of environmental policy on trade and FDI for the BRICS. It also employed the needed econometric tools in overcoming the problem of possible endogeneity problem.

Theoretical Framework

According to Tumurshoev (2006) factor endowment theory postulates that disparities in countries endowment or technology are the factors that determine trade. It is not the differences in pollution policy that determines trade but difference in factor endowment or technology. By implication, countries that are rich or well endowed in capital will export capital intensive goods which are mostly categorized as ‘dirty’. These capital-intensive goods promote the production capacity and also escalate pollution in capital-intensive economies. Conversely, developing countries with relative disadvantages in the production of capital-intensive goods will have a reduction in the production of capital-intensive goods.

Consequently, their levels of pollution generation declines as a result of the reduced production of pollution-intensive goods.

Generally therefore, the impact of trade on the environment globally and locally hinges on the distribution of comparative advantages and is predicated on differences in factor endowments as well as disparities in pollution policies in the World.

Pollution haven hypothesis is anchored on the fact that environmental regulations imposes extra costs on firms that are subject to stricter environmental regulations than firms that are subjected to laxer environmental regulations or non-existence environmental regulations. Given that two countries are identical in term of endowments and other conditions except for strictness in environmental regulations, economic theory posits that country with less stringency in environmental policy would offer a cost advantage to dirty producers or industries.

By implication, countries with strict environmental regulations would therefore specialize in cleaner production and import the output of dirty industries. This is also in conformity with the standard international trade theory which states that countries will have a comparative advantage in goods manufactured with factors that are in abundance relatively. In this situation therefore, the environment as an allowable dumping ground for pollution and environmental degradation would serve as scarce factor or abundance factor.

The prediction of pollution haven is that with trade, developing countries that are having weaker environmental regulations will specialize in the production of dirty goods. This is because they have weaker environmental policy; they will be dirtier and specialize in dirty production techniques.

Emerging economies will set lower standards for some obvious reasons. First, economic growth for less developed countries means a shift from agrarian economy to manufacturing or industrial revolution. This will fuel large investments in infrastructure and increased in urbanization which fuel pollution intensity. In developed countries however, economic growth means a shift from manufacturing or industrialization to service sector which has lower pollution-intensity.

Secondly, environmental monitoring imposes great costs on countries and these costs are higher in emerging economies because of lack of adequately trained personnel, corruption, high cost of implementing standards, lack of modern equipment among others.

Thirdly, income level is directly related to the demand for good environmental quality. The higher the income level, the higher will be the demand for cleaner environment. The implication of this is that emerging economies due to their poor income levels are more focused on increasing their jobs and earnings rather than investing or having concern for their health and level of pollution as opposed to their counterpart developed countries. Based on the above, the study therefore explore empirically the reality or otherwise of the existence of pollution haven hypothesis for the BRICS countries.

Methodology

The general model adapted for this study is that of Levinson (2003).

$$Y_i = \beta_i R_i + \alpha_i X'_i + \mu_i \quad \text{-------------------------------- (1)}$$

Where Y is the economic activity, R denotes the regulatory stringency, X' are the vectors of other determinants of Y while μ is the error term. In the above model therefore, if there is evidence of pollution haven, $\partial Y / \partial R$ should be significantly negative $(\hat{\beta} < 0)$. The above model was reformulated as:

$$Y_{i,t} = \beta Y_{i,t-1} + \alpha STRG_{i,t} + \psi' X'_{i,t} + \varepsilon_{i,t} \quad \text{--------------- (2)}$$

Where, $Y_{i,t}$ is the measure of foreign direct investment inflows of country i in time t for model one, or a measure of net exports of country i in time t for model two. $STRG_{i,t}$ is the measure of environmental strictness of country i in time t, X'_{it} are vectors of other variables affecting foreign direct investment (FDI) or net exports as the case may be. Lag of dependent variables were introduced to capture dynamism (Baltagi and Levin, 1986).

However, in the models, FDI, Net exports and stringency of environmental regulation (STRG) may be endogenous and $E(STRG_{it}/\varepsilon_i) \neq 0$. Therefore, SER was replaced with its estimates using series of instruments similar to the second stage least squares (TSLS) when the generalized method of moments (GMM) was used for analysis. So the functional forms of the models become:

NEXP = f(NEXP(-1), STRG, OPEN, GDPC, EXR, TARR) ------------ (3)

FDI = f(FDI(-1), STRG, OPEN, INFR) ------------- (4)

Specifically, the econometric models of the study are:

$$NEXP_{it} = \beta_1 NEXP_{it-1} + \alpha_1 STRG_{it} + \Psi_1 OPEN_{it} + \Psi_2 GDPC_{it} + \Psi_3 EXR_{it} + \Psi_4 TARR_{it} + \Psi_6 EXR + \omega_i Z_i + \mu_i \quad ------------------\_-------------- (5)$$

$$FDI_{it} = \beta_2 FDI_{it-1} + \alpha_2 STRG_{it} + \Psi_7 OPEN_{it} + \Psi_8 INFR_{it} + \Psi_{12} EXR + \omega_i Z_i + \mu_i \quad --- (6)$$

Where:

FDI_{it} is the inward foreign direct investment of country i in time t measured in US \$. NEXPit is the net exports of merchandize trade and services of country i in time t measured in US \$. $GDPC_{it}$ is the measure of gross domestic product of country i in time t measured in USD. EXR_{it} is the foreign exchange rate of country i in time t measured in dollar to local currency. $OPEN_{it}$ is trade openness (trade to GDP ratio) of country i in time t. $TARR_{it}$ is the tariff rate, applied, weighted mean for all products in percentage in country i in time t. $INFR_{it}$ is the percentage of population with access to electricity generation in country i in time t.

The study tested for stationarity of variables of the model using four approaches and all variables are confirmed to be integrated of order one. Thereafter, Pedroni cointegration was applied on each model and cointegration was confirmed for the variables of the two models. Thereafter, panel least squares was applied to the models. However due to the possibility of the presence of endogeniety, panel generalized method of moments (PGMM) was used in estimation and it produced a more robust and reliable estimates. The inherent features of PGMM and its usefulness here is as follows:

Based on Acemoglu et. al. (2009) endogeneity and other econometric problems inherent in dependent and independent variables' dynamics can be solved using panel generalized method of moments (PGMM). In addition, the models may be heteroscedastic or have correlated errors; PGMM will still produce robust estimates (Nawaz, et. al., 2014). This study utilized a system GMM based on Blundell and Bond (1998) to solve the problem of dynamism and endogeniety.

According to Whitney (2007) the GMM estimator chooses parameter estimators by setting sample moments close to population counterpart. The generalized method of moment is a generalization of the classical method of moments based on knowing the form of up to **P** moments of a variable **Y** as functions of some parameters.

$$E[Y^j] = h_j(\beta_0) \qquad (1 \le j \le p)$$

The method of moment's estimator $\hat{\beta}$ of β_0 is derived by representing the population moments by sample moments and then solve for;

$$\frac{1}{n}\sum_{i=1}^{n}(Y_i)^j = h_j(\hat{\beta}) \qquad (1 \le j \le p)$$

One important angle where GMM applies is the instrumental variable (IV) estimation.

Given the model:

$$Y_i = X^{'}\beta_0 + \varepsilon_i, \qquad E[Z_i\varepsilon_i] = 0$$

Z_i in the above model is a vector of instrumental variables, X_i is a vector of explanatory variables. The condition that $E[Z_i\varepsilon_i] = 0$ is known as population "Orthogonality Condition" or "Moment Condition". Orthogonality condition means that elements of Z_i and ε_i being orthogonal in the expectation sense. Since $\varepsilon_i = Y_i - X_i'\beta$, the moment condition refers to the fact that the product of Z_i and $Y_i - X_i'\beta$ has expectation zero at the true parameter value. The GMM estimator emanated from the product of the moment functions and vectors of products of instrumental variables and residuals.

$$g_i(\beta) = Z_i(Y_i - X_i'\beta)$$

The GMM estimator can be found by minimizing;

$$\hat{g}(\beta)\hat{A}\hat{g}(\beta) \quad OR \quad \hat{g}(\beta) = \sum_{i=1}^{n} Z_i(Y_i - X_i'\beta)/n = Z'(Y - X\beta)/n$$

Minimizing the above functions yield:

$$\hat{\beta} = (X'Z\hat{A}Z'X)^{-1} X'Z\hat{A}Z'Y$$

Where, $\hat{A} = (Z'Z)^{-1}$ which is identical to 2SLS estimator $X'Z\hat{A}Z'X$ which is non-singular.

The above is usually referred to as W estimator which generalizes the usual two-stage least squares estimator. Hence the name generalized instrumental variable method.

Identification condition

There must be at least many instruments as regressors ($q \geq p$) and these should be correlated with them. If this assumption holds and $q > p$, the equation is overidentified. If $q = p$ it is exactly identified.

J statistic test for whether or not model has been correctly specified. Does the model satisfy certain restrictions? Which models appears to be more consistent with the data?

J statistic is the most common diagnostic tool utilized in the general method of moments' estimation to evaluate the suitability of the model. A rejection of the null hypothesis (probability $\leq$ 0.05) has the implication that the instruments are not satisfying the orthogonality conditions. The J-statistic is distributed as chi-square with degrees of freedom equal to the number of overidentifying restrictions (Baum and Schaffer, 2002).

All data except the environmental stringency index data used in this analysis were obtained from World Bank data. Net export was obtained by deducting merchandize and services import from export. Environmental stringency index data from 1990 to 2015 were obtained from the OECD.Stat database while 2016 to 2018 data were imputed using the least squares analysis. Other imputations made are; percentage with electricity for South Africa 1990 to 1995, India 1990 to 1992 and 2018 for all variables. Exchange rate for Russia was forecasted for 1990 to 1992 and 1994 to 1995.

Results and Discussions

Table 3 below showed the results of the panel stationarity test of the variables of the models. The tests were conducted using four approaches. That is, Levin and Lin and Chu t, Im Pesaran and Shin W-Stat, ADF Fisher Chi Square and Phillip Perron chi square. In most cases there are general consensuses on results. Generally, all the variables are integrated of order one at one percent significant level and we can go ahead and conduct the Pedroni cointegration since they are integrated of orders one.

Table 3: Panel stationarity results

VARIABLE	Levin & Lin & Chu t.	Im Pesaran & Shin W-Stat	ADF Fisher Chi Square	PP Fisher Chi Square	Order of Integration
EXR	0.08716(0.5347) -5.7287(0.0000)	1.0910(0.8624) -4.8103(0.0000)	4.8537(0.9007) 41.5388(0.0000)	5.5726(0.8498) 57.6025(0.0000)	I(1)
FDI	-0.4068(0.3421) -7.2195(0.0000)	-0.8429(0.1996) -7.6837(0.0000)	13.5321(0.1954) 69.7787(0.0000)	19.8247(0.0310) 107.559(0.0000)	I(1)
FDIP	-0.7379(0.2303) -6.2493(0.0000)	-0.6280(0.2650) -5.7696(0.0000)	11.7957(0.2990) 50.6040(0.0000)	9.0841(0.5241) 82.8639(0.0000)	I(1)
GDPC	3.6719(0.9999) - 4.1395(0.0000)	4.0988(1.0000) -3.6814(0.0001)	1.8451(0.9974) 33.8795(0.0002)	1.5551(0.9988) 38.3629(0.0000)	I(1)
GDPPC	3.2399(0.9994) -4.3894(0.0000)	3.5451(0.9998) -- 3.8311(0.0001)	2.4780(0.9912) 34.7169(0.0001)	1.8919(0.9971) 40.5918(0.0000)	I(1)
INFR	-2.8347(0.0023) 0.5672(0.7147)	-0.0274(0.4891) -4.8906(0.0000)	9.3905(0.3104) 42.9817(0.0000)	24.3719(0.0020) 84.1921(0.0000)	I(1)
NEXP	-1.3657(0.0860) -3.1688(0.0000)	-1.2042(0.1143) -5.2163(0.0000)	16.0435(0.0984) 45.9022(0.0000)	7.8114(0.6473) 60.7403(0.0000)	I(1)
OPEN	-1.7167(0.0430) -11.505(0.0000)	-1.9167(0.0276) -9.3601(0.0000)	21.9217(0.0155) 57.4307(0.0000)	20.6691(0.0235) 95.3805(0.0000)	I(1)
STRG	4.2832(1.0000) - 4.02463(0.0000)	3.72763(0.9999) -3.6673(0.0001	11.6767(0.3073) 32.6208(0.0008)	5.6800(0.8414) 56.9738(0.0000)	I(1)
TARR	-2.5433(0.0055) -5.0719(0.0000)	-0.7777(0.2184) -5.6017(0.0000)	13.6353(0.1903) 50.6439(0.0000)	28.8930(0.0013) 97.2934(0.0000)	I(1)

The study utilized the Pedroni panel cointegration test in testing for the cointegration of model one and based also on the null hypothesis of no cointegration. To conduct this test and evaluate our results, eleven statistics were estimated and evaluated. The null hypothesis of no cointegration was rejected by seven of the eleven statistics employed at 0.05 level of significance. Therefore, we conclude that there is cointegration among the variables of model one and that Y_t and X_t are cointegrated and; $\hat{\mu}_t \approx I(0)$.

Table 4: Pedroni residual cointegration results for model 2

Pedroni Residual Cointegration Test
Series: NEXP NEXP(-1) STRG OPEN GDPPC EXR TARR
Date: 08/07/20 Time: 23:49
Sample: 1990 2018
Included observations: 145
Cross-sections included: 5
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
Automatic lag length selection based on SIC with a max lag of 4
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	1.963108	0.0248	-0.400628	0.6557
Panel rho-Statistic	-0.338155	0.3676	0.063710	0.5254
Panel PP-Statistic	-3.212248	0.0007	-2.906541	0.0018
Panel ADF-Statistic	-3.229801	0.0006	-2.947199	0.0016

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	0.800239	0.7882
Group PP-Statistic	-2.816612	0.0024
Group ADF-Statistic	-2.877308	0.0020

The study also utilized the Pedroni panel cointegration test in testing for the cointegration of model two and based also on the null hypothesis of no cointegration. To conduct this test and evaluate our results, eleven statistics were estimated and evaluated. The null hypothesis of no cointegration was rejected by seven of the eleven statistics employed at 0.05 level of significance and nine out of eleven at 0.10 level of significance. Therefore, we conclude that there is cointegration among the variables of model two and that Y_t and X_t are cointegrated and; $\hat{\mu}_t \approx I(0)$.

Table 5: Pedroni residual cointegration results for model 2

Pedroni Residual Cointegration Test
Series: FDIP FDIP(-1) STRG OPEN INFR GDPC
Date: 08/08/20 Time: 06:06
Sample: 1990 2018
Included observations: 145
Cross-sections included: 4 (1 dropped)
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
Automatic lag length selection based on SIC with a max lag of 5
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

Weighted

	Statistic	Prob.	Statistic	Prob.
Panel v-Statistic	2.110762	0.0174	1.497493	0.0671
Panel rho-Statistic	-1.507496	0.0658	-1.247672	0.1061
Panel PP-Statistic	-4.883913	0.0000	-4.771776	0.0000
Panel ADF-Statistic	-4.883866	0.0000	-4.766520	0.0000

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	-0.723120	0.2348
Group PP-Statistic	-5.615725	0.0000
Group ADF-Statistic	-5.474636	0.0000

Table six shows least squares results of model one and two. The coefficient of determination is about ninety four percent showing that the model has captured about ninety-four percent variability in FDIP which is a good fit. The F-Statistic also shows about 410 with zero probability indicating high level of significance. Out of the explanatory variables of the model, only the autoregressive coefficient significantly determines the FDIP indicating the positive agglomeration effect of foreign direct investment.

Although stringency of environmental regulation, income, degree of openness and level of infrastructure exhibited their expected signs, their impacts are not substantially felt to influence foreign direct investments of the BRICS economies. Therefore, pollution haven hypothesis is unfounded based on model one.

Table 6: Ordinary Least Squares results

Panel Least Squares		
Independent Variables	MODEL 1 Dependent Variable is FDIP	MODEL 2 Dependent Variable is NEXP
Constant	-9.28E+09 (-1.026709) (0.3064)	-1.59E+10 (-1.404893) (0.1624)
NEXP(-1)	-	0.757179 (0.757179) (0.0000)*
FDIP(-1)	0.979056 (39.88287) (0.0000)*	-

GDPC	0.000848 (0.877956) (0.3815)	0.010871 (4.718403) (0.0000)*
TARR	-	2.99E+08 (0.846051) (0.3990)
INFR	89728473 (0.877956) (0.3815)	-
OPEN	1.46E+08 (1.564072) (0.1202)	3.62E+08 (1.835498) (0.0687)***
STRG	-4.57E+09 (-1.128843) (0.2610)	-1.60E+10 (-1.703839) (0.0907)***
EXR	-	-10182254 (-0.065915) (0.9475)
R^2	0.938638	0.896148
Adjusted R^2	0.936349	0.891463
Durbin Watson	2.134435	1.772684
F – Statistic (Probability)	409.9546(0.0000)	191.2781(0.0000)
Number of Countries	5	5
Periods Included	28	28
Observations (Panel)	140	140

Note: * means p≤ 0.1, ** means p ≤ 0.05, *** means ≤ 0.01. T-Statistics and respective probabilities are in parentheses. **Source:** Author's computation (2020)

The coefficient of determination of model two shows about ninety percent variability in the net exports have been explained by the explanatory variables of the model. The F statistic is also highly significant. A year lag of net exports significantly explained the current net exports. Income significantly explained trade positively as postulated theoretically. Trade openness positively increased trade in conformity with theory. The main variable of interest is the stringency of environmental regulation which has a negatively significant impact on trade. That means, a unit increase in stringency of regulation reduces trade by about 1.7 million US dollars thus confirming the stringency of environmental regulation as reducing trade. Conversely, a unit decline in stringency of environmental regulation will bring about 1.7 million dollar rise in trade confirming the existence of pollution haven hypothesis via trade for the BRICS.

A major flaw with the use of least squares estimates here is the problem of endogeneity between trade, FDI and stringency of environmental regulation. To overcome this problem, we utilized the panel generalized method of moments which utilized instruments to modify the endogenous explanatory variable of the models in a similar way with the method of two stage least squares (2SLS). The results are presented in table 7.

Table 7: Panel Generalized Method of Moments' Results of the models

Method: Panel Generalized Method of Moments (PGMM)		
Independent Variables	MODEL 1 Dependent Variable is FDIP	MODEL 2 Dependent Variable is NEXP
NEXP(-1)	-	0.733513 (5.640727) 0.0000*
FDIP(-1)	0.983847 37.53343 0.0000*	-
GDPC	0.003864 (2.120611) (0.0358)**	0.026248 (1.868171) (0.0639)***
TARR	-	-4.62E+08 (-1.118905) (0.2652)

INFR	10489818 (0.090585) (0.9280)	-
OPEN	2.59E+08 (2.264440) (0.0252)**	1.14E+09 (2.373369) (0.0190)**
STRG	-2.15E+10 (-2.245710) (0.0264)**	-1.26E+11 (-1.983456) (0.0494)**
EXR	-	1.09E+09 (1.691357) (0.0931)***
R^2	0.930632	0.762928
Adjusted R^2	0.928044	0.754082
Instrument Rank	6	7
Hansen J Statistics (Probability)	3.85E-25 (1.00000)	0.373352 (0.62265)
Number of Countries	5	5
Periods Included	28	28
Observations (Panel)	140	140

Note: * means p≤ 0.1, ** means p ≤ 0.05, *** means ≤ 0.01. T-Statistics and respective probabilities are in parentheses. **Source:** Author's computation (2020)

Table 7 above shows the results of the panel generalized methods of moments (PGMM) . The results were gotten from analyzed data of five BRICS countries over the period of 1990 to 2018 based on data availability, so total number of observations is 140 after adjusting the endpoints. Hansen J-statistic test for over-identifying restrictions confirmed the acceptability of instruments employed and that the results for the two models passed the battery of diagnostic tests. The J statistic of 3.85E-25 (with a probability of 1.0000) and 0.373352 (with a probability of 0.62265) are insignificant. An acceptance of the null hypothesis (probability > 0.05) has the implication that the instruments are satisfying the "orthogonality conditions" therefore the instruments used are not only appropriate but uncorrelated with their respective error terms while the excluded variables are correlated with their respective error terms.

Model one has foreign direct investment (FDIP) as the dependent variable to investigate whether or not weaker environmental regulations attracts more FDIP into the BRICS countries analyzed. Lax in environmental regulation index data was readily made available and other determinants of FDIP were added as explanatory variables. The results indicate that a year lag of FDIP itself positively increases the current FDIP significantly. A dollar increase in immediate past period foreign direct investment wiil bring about 0.983847 dollar rise in the current FDIP. This result is in conformity with the apriori expectation because of positive agglomeration effects of FDIP. Gross domestic product (GDPC) a measure of income significantly boosts the foreign direct investment (FDIP) in conformity with theory. A unit increase in income can bring about 0.003864 rises in foreign direct investment.

Percentage of family with access to electricity (INFR) is our measure of infrastructural availability and it is positively associated with foreign direct investment (FDIP) inflows. However, it has no significant impact foreign direct investment (FDIP) inflows into BRICS countries. Trade openness (OPEN) has a positively significant impact on foreign direct investment as a unit rise in trade openness can bring about 2.59E+08 dollar increase in foreign direct investments inflows into the BRICS. This finding is in consonance with the findings of Shao, Wang, Zhou and Balogh (2019).

The result from the main variable of interest- stringency of environmental regulations – shows that there is a significant negative impact of stringency of environmental regulations on foreign direct investment. A unit reduction in stringency of environmental regulations, other things being constant can bring about -2.15E+10 million dollar rise in foreign direct investment (FDI). This result points to the validation of pollution haven hypothesis which posits that lax or weak in environmental regulations will bring about increase in inflows of dirty FDI. This result is in conformity with the findings of Xing and Kolstad (1997), Ben-David, Kleimer and Viehs (2018) and Ayadi (2019).

Model two tested the hypothesis of pollution haven by looking at it from trade angle and specifically net exports. The results indicate that net export of the immediate past period significantly impacted positively on the net export of the current period. Increase in foreign direct investment also helped in boosting the net export in conformity with expectation. A dollar increase in foreign direct investment, other things being constant can bring about 0.010871dollar rise in net export.

As expected, tariff, a variable capturing trade policies showed expected sign. Increase in average tariff insignificantly depresses net export. It is however unclear why the variable is not a significant one explaining net exports as suggested by theory (Hubbard and O'Brien, 2013 and 2015). Trade openness significantly increases net export in agreement with a priori expectation. A unit rise in trade openness can bring about 1.14E+09 million dollar rise in net export thus confirming the beneficial impacts of openness to trade. Exchange rate has been found to be a determinant of trade at ten percent significant level. There is a direct impact of exchange rate on trade. As the exchange rate is lowered trade becomes more beneficial to the bloc. This is in conformity with theory.

The result of the main variable of interest (stringency of environmental regulations) shows that it is negatively related to the trade variable significantly. A unit decrease in stringency of environmental regulations index other things being constant can bring about 1.26E+11 dollar increase in net export indicating that there is a very high negative relationship between lax in environmental regulations and trade inflows of the BRICS. Therefore we can conclude that lax in environmental regulations do encourage dirty international trade in the BRICS economies thus confirming the existence of pollution haven hypothesis (PHH) in the BRICS Countries via trade. This finding is in tandem with the findings of Ayadi (2019), Jun, Zakaria, Shahzad and Mahmood (2018), To, Ha, Nguyen and Vo (2019); Zhou, Sirisrisakulchai, Liu, Sriboonchitta (2019).

Conclusion and Recommendation

This study investigated the reality or otherwise of pollution haven hypothesis in BRICS countries using panel data spanning from 1990 to 2018. The study employed net exports and foreign direct investments as measures of economic activity (dependent variables for the two models) and stringency in environmental regulation while other determinants of trade such as income, trade policy and exchange rate were captured as independent or control variables. The other model that has foreign direct investment as dependent variable has infrastructure, income and trade openness as control variables. Cointegration, panel least squares and Panel generalized method of moments (PGMM) were used in analyzing the data. A year lag of the dependent variables was included as one of the independent variables of the models to capture dynamism (Blundell and Bond, 1998). The study confirmed the existence of pollution haven hypothesis true for the BRICS countries. The agglomeration effects of FDI and trade was also confirmed by the study among others.

These findings above confirmed that pollution haven hypothesis which posits that industries with polluting technologies and dirty international trade tend to move or relocate to countries or areas (pollution havens) with lax or less stringent environmental regulations is a reality for the BRICS economies. The implication of this is that governments of BRICS countries must weigh the beneficial impact of trade and FDI against the pollution impact of 'dirty' trade and investments before deciding or setting its environmental policy. There is a great need for them to tighten their environmental laws and also strengthened the enforcement agencies so as to make those regulations effective.

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The Impact of Organizational Change on Employees' Performance: A survey of Nigerian Deposit Money Banks

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Abstract: *This study investigated how organisational change affects employees' performance in the Nigerian banking industry. This paper was based on an empirical investigation of eighteen banks operating in Ondo State. Data were collected through a survey questionnaire from 254 respondents purposively selected for the study and were analysed using the regression model. The results revealed that the organisational change constructs covered in this study had a significant influence on employees' innovative performance, productivity, and customer service performance. This study concluded that since organisational change dimensions would play a significant role in providing information to predict employee's performance, there should be re-orientation for employees mostly the older ones about the presence and need for change in the Nigerian banking sector through continuous training, workshops, and group discussions thereby reducing the fear of the unknown.*

Keywords: Organisational Change, Employee's Performance, Deposit Bank

Introduction

It is widely accepted that the only constant variable of the contemporary world is change, thus businesses across the world are restructuring their operations and re-strategizing to overcome stiff competition facing the business world as a result of an inherent change in the environment (Babalola & Adesanya, 2013; Eruemegbe, 2015; Gomez-Meijaet al., 2016; Gotcheva et al., 2013). Organisational change means rightsizing new development, and changes in technologies, rescheduling operations, and major partnerships (McNamara, 2011). The biggest challenge of the 21st century is the accelerated rhythm of change that organisations are facing. This has forced organisations to witness permanent transformations in their operations, thus the best strategy for organisations to survive in this dynamic and turbulent environment is to react promptly to the changes (Todericiua et al., 2013). However, resistance to organisational change may occur at the level of organisation or individual. From the employee's side, resistance can occur as a result of the perceptions guided by the life perspectives, from the habits resulted from privileged perceptions, from dependency, fear of the unknown, insecurity and uncertainty, and financial reasons (Ala et al., 2013; Katsaros et al., 2014; Paoletta, 2020; Todericiua et al., 2013). One of the strategies open to every organisation which supports the process of its development is change management (Kassim et al., 2010).

Management of change according to Paoletta (2020) is to safeguard workers from potential harm during the crucial period of transition and the aftermath effect of change. Human resources, the most vital asset of any organisation, can be said to be the basis for the change process in an organisation. According to Todericiua et al., (2013), the change affects mentalities, systems of values, principles, attitudes, habits, and even the entire existence of the individual. Also, Todericiua et al., (2013) opined that regardless of the type or nature of organisational change, the role of the human resource in the process of organizational change is vital, according to them, employees are simultaneously the object and subject of change. Therefore, in today's dynamic and competitive economy, the organisations require better qualified, dedicated, and capable employees to achieve their goals and to prosper in an intensely competitive environment. By effectively utilizing talented people, organisations may achieve successful results and develop a highly productive workforce (Fapohunda, 2014; Kurgat, 2016). The workforce is the most essential and imperative for organisations competitiveness. Human resource is the real asset of an organisation and plays a major part in the progress of the organisations (Batool, 2013). Organisations achieve their set objectives when competent and committed employees are engaged (Khan et al., 2013).

The impact of organisational change on employees' performance is view differently. For instance, Oreg et al (2011) maintained that organisational change has frequently been connected with adverse effects on jobholders. Typical organisational changes that can impact employees negatively are salary reductions, benefits lost, demotion, firing, or relocation to another city, state, or country. Such changes may have been seen to decrease employees' morale resulting in a decrease in employee performance. More so, the literature indicates that employees often oppose changes due to increased work pressure (Wisse & Sleebos, 2016). Moreso, Osei-Bonsu (2014) stated that employees' low level of trust in an organisation resulting from the change could make those employees uncertain about their ability to influence management actions. Meanwhile, Malatjie and Montana (2019), Muzanenhamo et al (2016), and Osei-Bonsu (2014) opined that change does not only lead to an increase in organisational effectiveness but it also leads to the desired satisfaction of employees. Furthermore, researchers such as Al-kaloti et al (2020), Karanja (2015), Khosa et al (2015), Kwizera et al. (2019), Ndairo et al (2015), Nwinyokpugi (2018), Olajide (2014), Ombati et al (2010), and YuSheng and Ibrahim (2020) had established that organisational change is positively linked with employee's innovative performance, productivity, and customer service performance. Therefore, there has not been a consensus among scholars and management practitioners on the aftermath effects of organisational change on employees.

The reformation exercise that started in the Nigerian banking industry in the year 2004 has changed the country's banking industry in terms of the number of institutions, ownership structure, as well as depth and breadth of operations. Before the reformation period, the banking industry had witnessed series of turbulent times, in particular, the decade 1995-2005 was traumatic for the Nigerian banking industry; with the magnitude of distress reaching an unprecedented level, thereby making it an issue of concern not only to the regulatory institutions but also the policy analysts and the general public (Olajide, 2014). In the quest to improve the Nigerian financial sector, certain strategic moves such as mergers, acquisitions, technological changes, and organisational restructuring have been embarked on. The organisational changes that are rocking the Nigerian banks are tremendously affecting the employees' commitment, satisfaction, productivity, and performance (Kolawole et al, 2013; Ikyanyon, 2012; Nwinyokpugi, 2018).

A review of the literature showed that many researchers such as Adeniji et al (2013), Adeniji et al (2018), Ejabefio and Nwaeke (2018), Nwinyokpugi (2018), Ogosi and Agbaeze (2018), Ringim et al (2015), and Ugoani and John (2017) had been conducted on the aftermath effect of organisational change on Nigerian banks in the post-consolidation era. However, the bulk of these researches was concentrated on bank performance with little or no studies that focused on the empirical link between organisational change and bank employees' performance. Besides, among the few existing research on the influence of organisational change on employees' performance, the studies that empirically examined the relationship between each of the basic four organisational change constructs namely- structural change; functional change; behavioural change; and technical change as explained by change curve model and employees' performance indices in the Nigerian banking industry are scanty. Hence, this study. The objective of this study is to empirically examine the influence of specific organisational constructs on the bank workers' performance in the Nigerian banking industry.

Literature Review

Conceptual Review

Organisational Change

Organizational change has been seen as a fact of life which involves changes in organizations' strategic intents, processes, structure, culture with effect at both individual and organization level.

Organizational changes have a large number of concepts, constructs, and dimensions, it can be discontinuous and radical, catastrophic or evolutionary, continuous and incremental, positive or negative, planned or unplanned, strong or weak, internally or externally stimulated, and slow or rapid (Shivappa, 2015; Naveed et al., 2017). Acceptance of change in an organisation is depended on necessity, organizations embrace changes if they consider them as necessary and quickly adapt their behaviour in a desire new direction but if changes are considered unnecessary organizations do not adapt to it (Bejinariu et al., 2017). Most of the researchers in organisational change concept suggested that organisational change could be the intentional or on-purpose effort by the organisation to make the things better towards success (Cawsey, 2012; Kwizera, et al., 2019; Vemeuleu et al., 2012). Rodrik (2013) sees organizational change as any initiative or set of actions that result in a shift in direction or progression that influences how an organisation operates. Change can be seen as the process of becoming different. According to Rodrik (2013) organisational change may be on mission and intended by the management within the organisation, or it can come from the organisation's uncontrollable external environment. Schmid (2010) cited in Packard (2013) defines organizational change as "the process that occurs in Human Service Organisations as a result of external constraints imposed on it or as a result of internal pressures that cause alterations and modifications in the organization's core activity, goals, strategies, structures, and service programs." According to Packard (2013) planned organizational change has to do with leadership and the deploying of staff in such adjustments and modifications to position the organization to a craved future state using change processes that involve technical and human of the organization. In the study conducted by Chun-Fang (2010), he asserts that change is a fact of organizational existence. He argues further that an organisation that failed to change cannot survive in the contemporary business environment. Change has the strength to alter the strategies an organisation employees to implement its strategic intents and functions performed by the people within the organisation, as well as the relationships between those people (Karanja, 2015). It is widely believed that organizational changes are necessary to ensure that organizational strategies remain attainable (Imberman, 2009). Luzano et al (2016) ascertained the relationship between structural change and optimal change paths for organisations. Also, Mirela et al (2010) established that organisational culture is highly sensitive to organisational change implementation. He pointed this out in the first step of his change theory that organisation needs to unfreeze the existing culture before executing any change. Anthony et al (2017) argued that the attitude of employees towards change can affect organisational change. Culture, structure, strategy, process, people, and values were mentioned as factors that capable of trigger and accelerate the organizational change and change process (Naveed et al., 2017). Zheng et al (2010) submitted in their study that knowledge management partially mediates the impact of organizational structure and strategy on organizational effectiveness. Also, Dalati (2017) and Zhang and Zhu (2012) posited that technology is a major driver of organisational changes. From the foregoing, organisational constructs can be grouped in four namely, structural, behavioural, technological, and functional changes.

Employee's Performance

The performance of each employee is being assessed either annually or quarterly by both line and staff superordinate to assist them in identifying suggested areas for improvement. The concept of employee performance has been defined differently by scholars and management practitioners. However, there is a consensus among the researchers that employee's performance connected with job-related activities of jobholders, the degree to which the activities were executed, and it has a multi-dimensional concept. Notable among these definitions is the one given by Shields (2016), according to him, employee performance is the extent to which an employee carries out the duties and responsibilities assigned by superordinate. According to Aguinis (2009) cited in Ahmad and Shahzad (2011), employee's performance excludes the results of employee's behavior, but focuses only on the behaviors themselves. Performance is viewed as mainly "about behaviors or what employees do, not about what employees produce or the outcomes of their work". Employee's performance is defined by Nmadu (2013), "as a degree of accomplishment of the task(s) that make up an employee's job". Richard and Morrison (2009) observed that employee performance can best be explained only in the context of organizational situations and perspectives. However, in their study, Chin-Wen et al (2012) viewed employee performance as workers' complete ability and productiveness in attainment the projected value and realization of everyday jobs in line with the prescribed procedure and timeline of the organization.

Theoretical Review

Consideration was given to a couple of theories relevant to this study. The theories relevant to this study include the Kotter model, Kubler-Ross five change management model, and the change curve.

Kotter's Model

This model was developed by John P. Kotter, a Harvard professor, and change management theorist. Kotter's model is one of the leading challengers to the Lewin model and one of the most accepted and adopted change management theory. Unlike some of the existing change management theories, Kotter's theory focuses on workers' attitudes to change. The model has eight stages and each of the stages is employee-oriented (Kotter, 1996). The eight-stage model according to Kotter (1996) includes factors like Increase urgency – This has to do with motivating employees about the urgency in embracing the change. This may be the only way to drive and occupy employees during the change process. Build the team – Choosing the right set of skills and personalities employees to be responsible for motivating change within the organization. Get the vision correct – The employees' innovative abilities and emotions need to be taken into consideration. Communicate - Frequently communicate and open up with people about the changes being implemented. Get things moving – Get support, remove the roadblocks, and constructively collect feedback. Focus on short term goals – the emphasis should be placed on attainable goals with a short term. This will enable the employees to feel a sense of accomplishment as the changes roll out. The focus should not be on the end itself but the means to the end. Incorporate change – Reinforce and make change a part of the workplace culture. Help employees adjust and reward them for the new behaviors. Don't give up – Changes are a gradual process and barriers are inherent hence, those involved in the change process must be persistent while the process of change management is going on (Kotter, 1996).

Kotter's change management model is one of the most commonly used models because it focuses on preparing employees for change rather than change implementation itself. However, the model according to Bucciarelli (2015) is criticized on the bases that it is too dependent on linear progression through the phases, so when there are hiccups, companies have little flexibility to move forward.

Kübler-Ross Five Stage Change Management Model

This model is similar to Kotter's model in a sense that is 100% employee-oriented**.** The Kubler-Ross Change Curve can be effectively utilized to assist employees to adapt to change and move towards success. The model focuses on employees, their feelings, concerns, and needs. This model stressed five stages in which the workforce may pass through in the process of organizational changes. According to Kubler-Ross (1969), the five stages are: Denial – At this first stage, employees are not willing to or unable to accept change. The reason for the resistance is because at the initial level most employees may not want to believe what is happening. Anger – This model assumes that denial will convert to anger when it is cleared to the employees that the change is inevitable. Bargaining – In order not to be caught with the aftermath effect of the change, employees will resort to bargaining. At this stage, employees try to get to the best possible solution out of the situation or circumstance. Depression – When bargaining fails to bail employees out, employees may end up being depressed and may lose faith. The following symptoms may manifest; low energy, non-commitment, low motivation, and lack of any kind of excitement or happiness. Acceptance – When employees realize that there is no point in fighting change anymore, they may finally accept what is happening and may begin to resign to it.

The Change Curve

The Change Curve is closely related to the Elisabeth Kübler-Ross model propounded in 1969 consisted of the five stages of grief. However, the Change Curve occurs over four distinct stages, each of which evokes a response for employees. The five stages according to Kubler-Ross are Status Quo — in this stage, employees hold on to the existing strategies, policies, and procedures. Disruption — at this stage, employees will fight back with fear and anger the change that as forcefully introduced by the management. Thus, productivity and performance lag as employees adjust to the new paradigm. Exploration — Employees begin to explore the possible benefits of the change once they realize that the change has come to stay. As time goes on, the workers will release that the change introduced has positive influences on their jobs. Rebuilding in the final stage, companies experience accelerated growth as the changes take root and performance reaches a higher level than it was before. This study adopted the change curve model because it has been classified as the most natural of all of the change management systems and meets the least resistance from employees.

Empirical Review of Related Studies

Organisational Change and Employee's Performance

Khosa et al (2015) analyzed the impact of organisational change on employee performance in the banking sector of Pakistan. The study used primary and secondary data collection techniques for obtaining data. Primary data were collected through Questionnaire administration to 252 respondents in the banking sector of Pakistan. Leadership, Communication, Procedural justice, Employee development, Tolerance to change were the variables considered for the study. Descriptive statistics and correlation analysis techniques were used for the analysis of data using SPSS software. The results showed that organisational change has a positive significant impact on employee's performance in the banking sector of Pakistan. Ndairo et al (2015) analyzed the effect of change management on the performance of government institutions in Rwanda. The study adopted a survey research design and the target population was employees of Rwanda Revenue Authority (RRA). Data were collected using questionnaires and interviews and analyzed using SPSS and Microsoft Excel. Consequent to the data collected, the study concluded that all changes made in RRA in the past four years had been well planned and implemented. Most of the employees in the institution had generally embraced the changes made in the organisation and at the same time resulting in overall organisational performance. The study revealed that there was statistically a significant relationship between the impact of various forms of organisational change and the marketing activities of banks. There was a positive correlation between the forms of organisational change and marketing strategies of change in addition to an inverse relationship. Technical changes had a positive relationship with the marketing strategies of change, except for the strategic redirection of the organisation. Behavioral changes had a positive relationship with the strategies of limited change, a continuation of strategy, and routine change. Also, Olajide (2014) examined empirically change management and its effects on organisational performance of Nigerian telecoms industries. In conducting the study, a total of 300 staff of Airtel were randomly selected from their staff population of 1000. Three hypotheses were formulated to guide the study and data collected for the study were analyzed using One-way Analysis of Variance. The result revealed that changes in technology had a significant effect on performance and that changes in customer taste had a significant effect on customer's patronage. The result also showed that changes in management via leadership had a significant effect on employee's performance. Besides, Abubakar and Haruna (2014) investigated the impact of organisational change through the adoption of Information and Communication Technology (ICT) on Bank Performance and Economic Growth in Nigeria. The study obtained annual data of selected commercial banks in Nigeria for 11 years (2001 – 2011). The ordinary least squares (OLS), among the commonly used models in analysing panel data, were used. The results of the study revealed that the use of ICT, from the random-effects model, did not improve bank performance in the Nigerian commercial banks. However, increased profitability, total equity showed significant relationships between bank performance and hence economic growth in the country. Similarly, a positive influence on bank performance was also revealed but not statistically significant. Another laudable contribution was made by Kwizera et al (2019). The researchers conducted the study to examine the effect of organizational change on employees' performance. The relationship was examined among employees of selected Commercial Banks in Bujumbura, Burundi. A cross-sectional research design was adopted for the study. Using a questionnaire, data were obtained from 104 respondents. The results indicated that structural change, strategic change, and technological change significantly affect employee performance. The study concluded that organizational change had a significant effect on employee performance. More so, Karanja (2015) examined how organizational change relates to employees' performance using Kenyan Postal Corporation as a case study. The study concentrated on the organizational changes that had occurred in the last 7 years. The sample consisted of 61 employees in the selected organisation. The research instrument used to collect data was a questionnaire and employed a descriptive research design. The results of the analysis using regression analysis, revealed that employee performance had been positively influenced by organizational change. The study found that among the study's variables, technology had the most positive influence on employees' performance. Wanza and Nkuraru (2016) in their study investigated the link between change management and the performance of employees concerning technological changes, organizational leadership, structure, and culture in Kenyan universities. The study revealed that technological changes, structural changes, and organizational leadership influenced university employees' performance positively. From the foregoing discussion, it can be hypothesized that:

H_1: there is a significant relationship between organisational change and employee's performance in Nigerian Banks

Nwinyokpugi (2018) in an attempt to investigate the consequence that change has on organizations and how best these consequences can be addressed to enhance employees' productivity, conducted a study using major Nigeria Banks operating in Rivers State. Using a random sampling technique, 152 respondents which comprise employees and management staff of the selected banks were drawn as the study sample. The study revealed that there is statistically a significant relationship between all tested dimensions of organizational change management and the measures of employee productivity. Furthermore, in the study conducted by Rajpal (2016) on the empirical link between organizational change and employee productivity regarding selected co-operative banks in Pune area, organizational change factors were found to have a positive and significant relationship employee productivity. Also, Obiukwu and Alaneme (2017) carried out research titled "employee productivity as a function of organizational climate in selected manufacturing firms in the South-West, Nigeria". The researchers employed a descriptive survey design and a non-probability convenience sampling technique was used to draw a sample of one hundred and fifty (150) for the study. It was empirically showed by the study that there is a significant relationship between organisational change and employee productivity. It is now imperative to hypothesize as follows:

H_2: that there is a significant relationship between organisational change and productivity of Nigeria bank employees.

Suhag et al (2017) in a study critically examined the empirical link between innovation and organizational performance in which an organizational culture acted as a moderating variable. The research was survey research and a questionnaire was administered to 200 employees that were concerned with innovation in Islamabad and Rawalpindi telecommunication industry. Using inferential statistical methods to analyze the data obtained, the study's findings showed that product innovation, process innovation, and organizational innovation has a positive impact on organization performance. Similarly, Zhang et al (2019) examined empirically the effect of management innovation and technological innovation on organizational performance. Moreover, the mediating role of sustainability in the relationship between the two variables was investigated. Structural Equation Modeling (SEM) was employed to test the study model and the researchers applied Analysis of a Moment Structures (AMOS) on the empirical evidence collected from 304 Pakistani CEOs and top managers. The results indicated that management innovation and technological innovation significantly positively contribute to sustainability and organization performance. In the study carried out by Al-kaloti et al (2020) investigating the influence of innovation capability on organizational performance in service firms using a survey questionnaire that was uploaded and distributed through an online platform. 160 valid responses were collected and analyzed through various statistical methods. Findings show that innovation capability affects both financial and non-financial performance positively. More so, YuSheng and Ibrahim (2020) evaluated the impact of innovation capabilities and innovation types on the performance of Ghanaian Banks. Data for the study were obtained from 450 respondents comprising bank employees and customers in the Kumasi metropolitan area in Ghana. An Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and SEM were used to analyze the collected data. The results of the data analysis revealed that there is a direct and positive relationship between innovation dimensions (product, marketing, and organizational innovations) and bank performance. Also, the study showed a positive relationship between innovation capability and the four dimensions of innovation employed in the study. Thus, based on the empirical literature reviewed above, it can be hypothesized that:

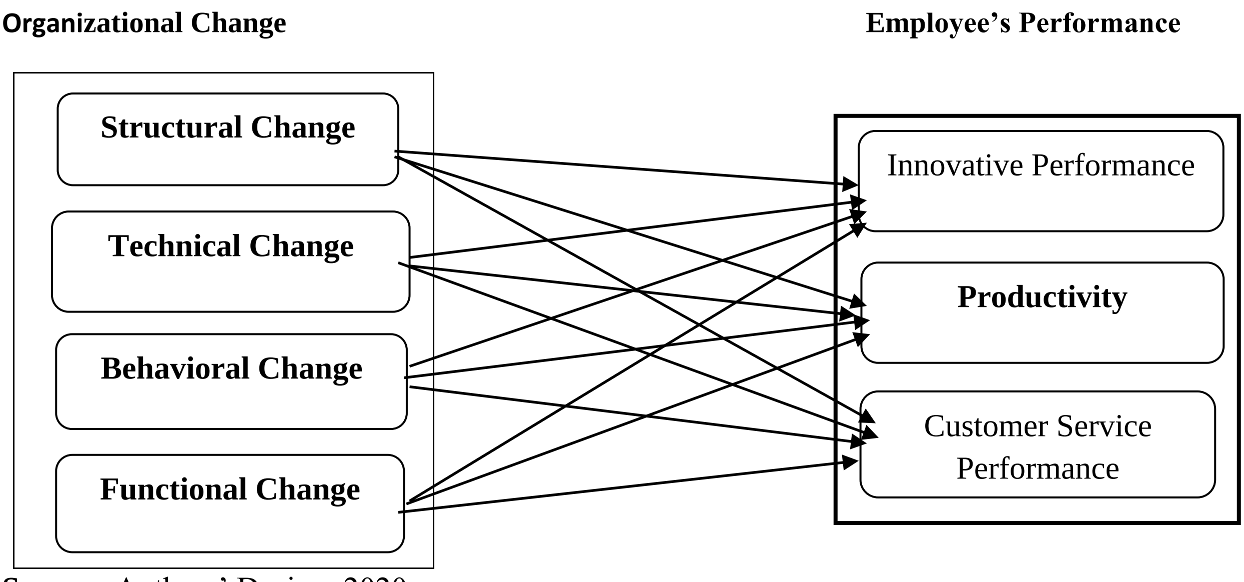
H_3: that there is a significant relationship between organisational change and the innovative performance of employees in Nigerian Banks.

Osabuohien and Evans (2008) investigate the impact of ICT adoption on Nigeria banks. To gather data necessary for the implementation of the study, a questionnaire was administered on 152 respondents comprised of the selected bank employees and the branch managers. Using regression analysis on the data collected, the paper findings revealed that organisational change through ICT adoption has positive and significant impacts on the speed of operations and service delivery, productivity, and profit level of the banks. In their work Ombati *et al*. (2010) studied the relationship between technology and service quality in the banking industry in Kenya using primary data drawn from a sample of 120 customers using e-banking services within the Central Business District, Nairobi. The authors used descriptive and inferential statistics such as correlation analysis, percentages, and means to analyse the data. The findings of the study indicated a direct relationship between technology and service quality in the banking industry. From the foregoing review, this study hypothesized that:

H_4: that there is a significant relationship between organisational change and customer service performance in Nigerian Banks.

Conceptual Framework

The structural Change provides for employees how their jobs are divided and coordinated and this includes responsibilities, allocation of tasks and authority thus influencing innovation performance in an organization. Technological Change creates a wide range of value added products and services to bank customers resulting in improved bank performance, in terms of, customized products and better response to customer service performance. Behavioural Change indicates that inclusion and participation of employees into decision-making processes would lead into improved organization's and management's trust in their employees thereby enhancing productivity in the banking sector while Functional Change refers to economic valuations of individuals in terms of responsiveness, reliability, empathy and price within a secure and shared working environment, thus improving organizational performance. All the above mentioned independent variable proxies influenced the final outcome of change management in the banking sector in Nigeria. Important benefits such as innovation, productivity and customers' service performance of employees are achieved thus improving organizational performance. This is shown in the diagram below:



Source: Authors' Design, 2020

Study Method

A cross-sectional survey design was adopted for this study. This research design was ideal because it allowed researchers to collect data across different banks in Akure, Ondo State. This study population is comprised of the entire workforce in all the 38 branches of the 18 banks that are operating in Akure in respect of their status (permanent or temporary) and unit/department. Respondents were selected across the four major units in the selected banks namely; Business Development, Operations, Compliance, and Security. Altogether, there were 696 employees in all the branches in the study area and these constituted the study sampling frame. Out of this, a total of 254 employees were selected as respondents for this study using stratified random sampling and purposive sampling techniques. This sample size was assumed to be representative of the opinions of all deposit banks in Nigeria. Since the study population is finite and the population size is known, Yamane's formula was used to derived the study sample size. Data for this study were collected using a structured questionnaire. The questionnaire was a partial adoption of the study of Dauda and Akingbade (2011). The questionnaire consisted of two sections (A and B). Section A focused on the socio-demographic information of the respondents while section B focused on the link between organisational change and employees' performance. A 5 point Likert scale ranging from '1' = strongly disagree to '5' = strongly agree was used. Cronbach's Alpha was used to test the reliability of the research instrument (Bryman, 2012; Lanier & Briggs, 2014). Cronbach's alpha for the instrument of this study was calculated for each of the constructs. Only Cronbach's alpha for the behavioural change measure was low at .59. Because five items (3, 5, 6, 8, and 11) had item-total correlations below .10, these items were dropped. The resulting alpha was 0.702, which was acceptable. The overall results indicated that the values of Cronbach's alpha calculated separately for both independent and dependent constructs were between 0.702 and 0.845 indicating good reliability of the measurement scales of the instrument. The independent variable was measured using structural change, technical change, behavioural change, and functional change while the dependent variable was measured using innovation, productivity, customer service performance respectively. Descriptive and inferential statistical methods such as simple percentage, frequency distribution, analysis of variance, correlation coefficient, and regression analysis were employed in analysing the data collected.

Model Specification

In line with the previous studies (Alsamydai et al., 2013) the basic regression model for this study in functional form as stated hereunder:

EP = f(OC)

EP = f(Structure Change, Technical Change, Behavioural Change, Functional Change, Marketing Change)

$EP = \acute{\alpha} + \beta_1 SC + \beta_2 TC + \beta_3 BC + \beta_4 FC + U$ ……………. equation 1

Where;

EP = Employee's Performance

OC = Organisational Change

SC = Structural Change

TC = Technical Change

BC = Behavioural Change

FC = Functional Change
U = Error Term
ά = Constant
β = Coefficients

A priori expectation is that $\beta_1, \beta_2, \beta_3, \beta_4 > 0$

Discussion of Findings

Table 1: The Relationship between Organisational Change and Employees' Performance of the selected Nigerian banks in Akure.

Explanatory Variables	**Innovation**			**Productivity**			**PSC**		
	Coef.	**T-test**	**Prob (ρ-Value)**	**Coef.**	**T-test**	**Prob (ρ-Value)**	**Coef.**	**T-test**	**Prob (ρ-Value)**
Constant	5.644	2.847	0.005	4.470	2.945	0.004	2.084	1.453	0.149
SC	0.094	1.173	0.243	0.059	1.017	0.311	0.064	1.158	0.249
FC	0.407	3.395	0.001	0.163	1.821	0.071	0.308	3.636	0.000
TC	-0.725	-5.342	0.000	-0.185	-1.765	0.080	-0.171	-1.721	0.088
BC	0.23	10.026	0.000	0.631	8.051	0.000	0.831	11.217	0.000
F-statistics	44.955	-	0.000	27.045	-	0.000	60.372	-	0.000
R	0.773			0.678			0.810		
R^2	0.598			0.460			0.655		
Adjusted R^2	0.584			0.460			0.644		
Std Error of the estimate	2.28252			1.76741			1.67029		
Durbin-Waston	1.702			1.704			1.756		

Source: Computation from SPSS, 2020

a. *Dependent variables: Innovation, Productivity, Personal Service to Customers*
b. *Predictors: (Constant), BC, SC, TC, FC*

Key:
BC = Behavioral Change
SC= Structural Change
FC= Functional Change
TC= Technical Change
PSC = Personal Service to Customer

Table 1 showed the effect of organisational change on the employees' performance among the selected banks in the study area. The employees' performance proxies considered in this study included: innovation, productivity, and personal service to customers. The results of the analysis in Table 1 as indicated by the respondents showed that organisational change components in the selected banks had a positive effect on employee's innovative skills. The study hypothesis indicating that there is a significant relationship between organisational change and innovative performance of employees in Nigerian Banks tested using regression analysis revealed that the predictor variables (structural change, functional change, and behavioral change) were individually statistically significant to the innovative performance of employees in the selected Nigerian banks. Structural change explained 9.4% of the variance in the innovative performance of employees, Functional change explained 40.7% of the variance in the innovative performance of employees while behavioral change explained 23% of the variation in the innovative performance of employees of the selected banks. Specifically, two proxies of organisational change (functional change and behavioral change) were individually statistically significant to the innovative performance of employees in the selected Nigerian banks as indicated by its t-values and p-values shown in parenthesis: Functional change ($t = 3.395; \rho < 0.05$); and behavioral change ($t = 10.026; \rho < 0.05$). However, Technical change had a negative relationship with the innovative performance of employees of the selected banks and was statistically significant as shown in parenthesis: Technical change ($t = -5.342; \rho < 0.05$); while the structural change was statistically not significant ($t = 1.173; \rho > 0.05$). It, therefore, followed that organisational change had a significant relationship with innovation performance. Consequently, the alternate hypothesis was accepted while the null hypothesis was rejected. Also, multiple regression is essentially a measure of naturally occurring scores on several predictor variables and establishes which set of the observed variables gives rise to the best prediction of the dependent variables. The R-value of the model of this study was 0.773 while the R^2 was 0.598 which represented the simple correlation and therefore indicated a good degree of correlation. Adjusting to a degree of freedom, the model of this study could still account for 58.4% of the variation in innovative performance of employees in the Nigerian banks while 41.6% in innovative performance of employees' variations in the selected Nigerian banks were accounted for by other variables not included in this study. Furthermore, the overall effect of organisational change on the innovative performance of employees of the selected banks was significant ($F= 44.955, p < 0.05$). The regression assumptions were also checked by autocorrelation and multi-collinearity tests. The results of the Durbin Watson (DW) was satisfactory at 1.702 implying that in this model the residuals are not auto-correlated as the value is close to 2. The multi-collinearity of the variables in the model was verified by the Tolerance (Tol.) and the values were satisfactory. The Tolerance values were high ranging from 0.472 to 0.732 which are far above 0.1 the worrying level and the Variance Inflation Factor (VIF) values ranging from 1.278 and 2.121 were also lower than the worrying level of 10 and above indicating that there were no multi-collinearity problems among the independent variables in the data. The findings of this study agreed with our *a priori* expectation and equally in agreement with the work of Ismail (2015), Biswakarma (2016), Suhag et al (2017); Zhang et al (2019) and Al-kaloti et al (2020) who revealed in their studies that organizational innovation such as product innovation, process innovation, and organizational innovation has a positive impact on organization performance

On the productivity performance of employees in the selected Nigerian banks, the results as shown in Table 1 revealed that the predictor variables namely; structural change, functional change, and behavioral change were positively related to employees' productivity in the selected Nigerian banks. Structural change explained 5.9% of the variance in the employees' productivity, Functional change explained 16.8% of the variance in the employees' productivity while behavioral change explained 63.1% of the variation in the employees' productivity of the selected banks. Specifically, behavioral change as a proxy of organisational change was individually statistically significant to employees' productivity in the selected Nigerian banks as indicated by its t value and p-value shown in parenthesis: behavioral change *($t = 8.051$; $\rho < 0.05$)*. However, Technical change had a negative relationship with employees' productivity of the selected banks and was statistically not significant as shown in parenthesis: Technical change *($t = -1.765$; $\rho > 0.05$);* while structural change and functional change had a positive relationship with employees' productivity and statistically not significant as shown in Table 1 Structural change *($t = 1.017$; $\rho > 0.05$)*; functional change *($t = 1.821$; $\rho > 0.05$)*. It, therefore, followed that organisational change had a significant relationship with productivity. Consequently, the alternate hypothesis was accepted while the null hypothesis was rejected. Also, multiple regression is a measure of naturally occurring scores on many predictor variables and establishes which set of the observed variables gives rise to the best prediction of the dependent variables. The R-value of the model of this study was 0.678 while the R^2 was 0.460 which represented the simple correlation and therefore indicated a good degree of correlation. Adjusting to a degree of freedom, the model of this study could still account for 58.4% of the variation in employees' productivity in the Nigerian banks while 44.3% in employees' productivity' variations in the selected Nigerian banks were accounted for by other variables not included in this study. Furthermore, the overall effect of organisational change on employees' productivity of the selected banks was significant *($F = 27.045$, $p < 0.05$)*. The regression assumptions were also checked by autocorrelation and multi-collinearity tests. The results of the Durbin Watson (DW) was satisfactory at 1.704 implying that in this model the residuals are not auto-correlated as the value is close to 2. The multi-collinearity of the variables in the model was verified by the Tolerance (Tol.) and the values were satisfactory. The Tolerance values were high ranging from 0.502 to 0.779 which are far above 0.1 the worrying level and the Variance Inflation Factor (VIF) values ranging from 1.284 and 1.991 were also lower than the worrying level of 10 and above indicating that there were no multi-collinearity problems among the independent variables in the data. The findings of this study agreed with our *a priori* expectation and equally in agreement with the work of Ombati (2010), Khosa et al (2015), Rajpal (2016), Alaneme (2017), Nwinyokpugi (2018), and Obiukwu and Alaneme (2017) who revealed in their studies that organisational change had a positive significant effect on employees' productivity.

On Customers' service performance by the employees in the selected Nigerian banks, the results as indicated in Table 1 revealed that the predictor variables (functional change and behavioral change) were individually statistically significant to employees' performance in terms of service to customers in the selected Nigerian banks. Structural Change explained

6.4% of the variation in the customers' service performance by the employees of the selected banks. Functional change explained 30.8% of the variance in the customers' service performance by the employees while behavioral change explained 83% of the variation in the customers' service performance by the employees of the selected banks. Specifically, functional change and behavioral change as proxies of organisational change were individually statistically significant to customers' service performance by the employees in the selected Nigerian banks as indicated by its t value and p-value shown in parenthesis: Functional change *(t = 3.638; $\rho<0.05$)* and behavioral change *(t = 11.217; $\rho<0.05$)*. However, structural change and technical change were not statistically significant to customers' service performance as shown in parenthesis: structural change *(t = .249; $\rho>0.05$)*; Technical change *(t = -1.765; $\rho>0.05$)*; while structural change and functional change had positive relationship with employees' productivity and statistically not significant as shown in Table 1 Structural change (*t = 1.017; $\rho>0.05$*); functional change *(t= -1.721; ρ > 0.05)*. It, therefore, followed that organisational change had a significant relationship with customers' service performance. Consequently, the alternate hypothesis was accepted while the null hypothesis was rejected. The *R*-value of the model of this study was 0.810 while the R^2 was 0.655 which represented the simple correlation and therefore indicated a good degree of correlation. Adjusting to a degree of freedom, the model of this study could still account for 64.4% of the variation in personal service to customers by the employees in the Nigerian banks while 35.6% in employees' service to customers' variations in the selected Nigerian banks were accounted for by other variables not included in this study. Furthermore, the overall effect of organisational change on employees' productivity of the selected banks was significant *(F= 60.372; $\rho<0.05$).* The regression assumptions were also checked. The results of the Durbin Watson (DW) was satisfactory at 1.756 implying that in this model the residuals are not auto-correlated as the value is close to 2. Besides, the multi-collinearity of the variables in the model was verified by the Tolerance (Tol.) and the values were satisfactory, ranging from 0.502 to 0.779. More so, Variance Inflation Factor (VIF) values ranging from 1.284 and 1.991 were below the worrying level of 10 and above indicating that there were no multi-collinearity problems among the independent variables in the data. The findings of this study agreed with our a priori expectation and equally in agreement with the work of Osabuohien and Evans (2008) and Ombati *et al* (2010) who revealed in their studies that organisational change had a positive significant effect on employees' quality of service.

Conclusion and Recommendation

The study revealed that organisational change dimensions such as structural change, functional change, technical change, and behavioral change in the Nigerian Banks had a positive and significant effect on its employees' performance. Thus, organisational change dimensions were strong predictors of employees' innovative performance, productivity, and customer service performance in the Nigerian banks. The beauty of the finding of this study is that organisational change as modeled in a cross-sectional study is a reliable and valid instrument for predicting employees' performance. Therefore, organisational change dimensions would play a significant role in providing information to predict employee's performance. The study recommended that there should be re-orientation for employees mostly the older ones about the presence and need for change in the Nigerian banking sector through continuous training, workshops, and group discussions thereby reducing the fear of the unknown. Shareholders and the various stakeholders such as managers, regulatory authorities, and policy makers in the Nigerian banking sector will find this study beneficial and useful as it will provide a framework for further discussions and stimulate debate on management of change particularly when it comes to involvement in the entire process thereby increasing participation in decision making. Also, the findings of the study would be highly important for those organisations that had gone through changes in the past few years' time.

Limitation and Suggestion for Further Studies

Research limitations/implications – The research sample of 254 banks employees in just 18 branches in one state out of 36 states of Nigeria, chosen from a population of approximately one hundred and ten thousand employees in Nigerian banks, is relatively small and is not representative of all employees and banks in this country. Therefore, this research sample is not a random or statistically significant selection of employees in the Nigerian banking sector. This study considered organisational change dimensions such as structural change, Functional change, Technical change, and Behavioral change. However, other variables to measure organisational change such as culture, process, and attitude could be used by other researchers as proxies. Also, organisational change could be investigated by researchers in other Nigeria sectors.

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Employees' Accommodations Deficiency in Kigoma Remote Community Secondary Schools and their Perceived Job Performance

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Abstract: *The study was conducted in Kigoma District to investigate employees' accommodations deficiency in Kigoma Remote Community Secondary Schools and their Perceived Job Performance with special reference to teachers. It targeted all teachers and school heads living beyond 28 Kilometers from their schools. Overall number of Community Secondary Schools teachers and school heads ranged to 60 as from 2019–2020. A sample of 49 participants was drawn for study comprising of 44 teachers and 5 heads of schools were used. Teachers were given questionnaires while school heads were interviewed. Purposive sampling was used to select school heads and teachers from Kidahwe, Mkigo, Kagongo, Nyamhoza, and Amohoro for the study. A mixed research approach was deployed to analyse quantitative and qualitative data. Concurrent triangulation nested explanatory research design was used to explain the state of teachers' accommodations. Data were collected through questionnaire, telephone interview, documentary review, and observation. Statistical package for social science (SPSS) 20 versions was used to analyse teachers' questionnaires. Observation, documentary review and interview data were thematically analysed. The findings were; Kidahwe, Mkigo, Kagongo, Nyamhoza, and Amohoro completely lack teachers' accommodations by 100%. The key reason was financial constraints. The study concludes that teachers' job performance in remote secondary schools was affected by the lack of accommodations. Therefore the government should provide enough funds for teachers' accommodations.*

Key words: Employees' Accommodations, Community Secondary schools, Job Performance

Introduction

The remote community secondary schools in Tanzania face employees' accommodations especially teachers (Brierton, 2017). William, (2019) describe that teachers' unsolved challenges undermine their job performance. Therefore, Tanzania's agenda for development in the Development Vision 2025 that aims at building up a well-educated nation and attain a high standard of living for all citizens cannot be achieved because teachers in remote school areas are still encountering not only inadequacy but the complete absence of accommodation which affect their performance (Malkeen and Chen, 2008). Many teachers travel from 5.30 am and walk about 100 Kilometer a day going to school and back home whereby they arrive at 6.00 pm (Ntulo & Nawe, 2008; William, 2019)

Inadequate accommodation facilities for community secondary school teachers were complicated immediately after the implementation of Community Secondary Schools Education Development Programme (SEDP) in 2005. The Programme targeted to build more classrooms, laboratories in total disregard of teachers' accommodations until when those schools started to operate there (Languille, 2019). In terms of demands, staff house facilities in the Secondary Education Development Plan (SEDP) are inadequate Maulid, (2017) as per many reports that show a discrepancy between the number of teachers and the pace of having them enjoy accommodation facilities at the nearby school as indicated in Table 1.

Table 1: The Government Five-Year Plans on Staff Accommodations

Item	**Year**	**Year**	**Year**	**Year**	**Year**
	2004/2005	**2005/2006**	**2006/2007**	**2007/2008**	**2008/2009**
Classroom	458	251	2361	3015	5733
Laboratories	360	498	1038	1778	3480
Libraries	123	241	350	607	1200
Administration block	150	200	605	716	1216
Assembly Hall	125	205	400	603	2014
Toilet Holes	121	204	450	715	2067
Staff Accommodations	**1216**	**1988**	**3465**	**6010**	**12660**
Wetter Supply	122	200	368	612	1269
Electricity Supply	210	230	346	645	1350
Chairs	150,203	180,283	245,890	351,818	758,700
Tables	146,103	180,283	244,890	351,818	758,700
Hostel For Girls	121	155	185	213	674

Source: MOEVT, (2009)

Table 1 above shows that there was less interests in construction of teachers' accommodations. The researcher looked for Observational findings to prove the claims. It was found that no houses for teachers were constructed in visited schools; Kidahwe, Mkigo, Kagongo, Nyamhoza, and Amohoro. Lack of accommodations is a reason for poor job performance in given schools. UNESCO (2014) supports this argument by referring to Herzberg's Two Factor Theory and Maslow hierarch of needs, a good teacher' living environment by Herzberg's Theory determines the quantity and quality of knowledge, and attitudes towards the job. In Maslw theory, UNESCO (2014) showed that good living environments such as good houses have positive influences where teachers live which reduce teachers' stress, absence, and are increasing teachers' job satisfaction and effectiveness in classrooms.

UNESCO (2005) indicates that the lack of accommodations for teachers in Community Secondary Schools is higher and has resulted in poor job performance. Maulid, (2017) provides that remote secondary school teachers are generally unhappy due to that their performance is poor in those schools. Their attendance rate was poor indicating system performance. Teacher presence as cited by Malkeen and Chen, 2008) are essential for learning. Findings from surprise visits in 2014 to representative samples of schools in Tanzania School indicated that the absence rate (teacher) is 15%, Classroom absence rate 47%. A joint study by HakiElimu (2005) and the Tanzania Teachers' Union (TTU) observed serious concerns with the accommodations in rural schools. Teachers walk long distances and become tiredness, waste of much time and insecurity to their life during thunderstone in the way either back or to school. This problem further has created many other problems like teachers delays in attending classes or absence due to some difficulties in teaching the school on a daily basis ADEA (2006) In Sub-Sahara Africa and around the globe accommodation inadequacy for remote secondary school teachers is a major problem faced by nearly all teachers like other employees in Tanzanian remote areas. Unfortunate the needs for teachers' accommodations particularly in rural areas were not dealt with (Malkeen and Chen, 2008). Oguchi noted serious concerns for staff resulting from a lack of accommodation. Teachers simply use small pathways cut across the forests were the only motorcycle can hard to get in but cars cannot. Teachers have to travel on a daily basis more than 50 to 56 Kilometers (UNESCO, 2005).

Teachers' accommodations in Tanzania being important would help to ensure effectiveness in preparing effective lessons, grade student work and offer feedback to manage the classroom materials, productively navigate the curriculum and collaborate with other staff. More systematic policy and programmatic work is needed to provide teachers' accommodations for effective job performance.

Theoretical Base

The biggest tasks of general educational leadership are to provide relevant and appropriate accommodations to teachers in their workplaces. Teacher performance is considered to be the core target of accommodation in school premises to reduce travel challenges. Hence, accommodation is an indicator of successful teachers' performance in several schools. UNESCO (2014) supports this argument by referring to Herzberg's Two Factor Theory which states that, a good teacher' living environment determines the quantity and quality of knowledge, the level of skills, and attitudes towards the job adding that good living environments such as good houses have positive influences both on schools and where teachers live. Some of these positive influences are reducing teachers' stress, turnover, absence, sickness and are increasing teachers' motivation, job satisfaction, cooperation, and effectiveness in classrooms and increasing student achievement.

Although education policy planners and government appear to be aware of the teachers' accommodation in assuring effective performance, their living environment has not been improved accordingly (Mosha, 2000). Maslow's Hierarchy of Needs can provide employers a reminder and framework that teachers are less likely to perform at their full potential if their basic needs are unmet. Lianke et al. (2007) argue that each teacher has needs that must be met in order to maximize performance efforts. The idea of Maslow is directly related to the living environment. Poor living environments such as poor houses and lack of clean water (Adediji & Olanrewaju 2011) have a negative impact on teachers working performance. In the analysis, the negative impacts of accommodation cause a high level of stress, poor morale, and low job satisfaction. UNESCO, (2005) argues the higher up in the hierarchy a teacher is the more levels that are met, the better the motivation and therefore the more efforts that the teacher will provide.

There has been a scarcity of studies linked accommodations in realizing their full potentials for teachers' performance. Therefore it has been difficult to capture the current state of teachers' accommodations in rural schools resulting in poor job performance and calls for more studies to explore the area.

Specific Objectives

The study was also guided by the objectives specifically sought;

i. To find out the current teachers' accommodations to support teachers performance in remote Community Secondary Schools (CSS)
ii. To explore the extent accommodations have affected teachers' job performance in CSS and
iii. Explore the grounds for teachers' accommodations shortage in CSS

Methodology

The study was conducted in Kigoma District (KD) using a sample of 49 participants from five remote secondary schools. These remote schools include Kidahwe, Mkigo, Kagongo, Nyamhoza, and Amohoro which were purposively selected for the study as they were the only remote schools. The district has 19 schools community schools whereby 14 schools are accessible and five are remote schools. Overall, the number of Community Secondary Schools teachers and school heads in those schools ranged to 60 as from 2019–2020 (Education Office, 2020). The key reason motivated the researcher to use remote schools was due to the reason that remote teachers in KD always travel beyond 50 to 56 kilometers on a daily basis than any other employees in the same District. When back to home they arrive while tired by approximately evening 6.00-700 pm hours especially during dry season, the situation doubles during rains where they teachers fail to arrive totally.

Likewise most of the schools such as Nyamhoza and Amahoro have a weather road that end somewhere, teachers starts to use pathways to travel on foot through unsecured way with full of trees and grassland. Roads are inaccessible the car can just stop somewhere behind the mountain and the river cutting across to school. The 6500/= Tsh is paid to both car and motorcycle drivers once either back or going to school. For example, at Amahoro and Nyamhoza teachers pay between 12,000/= to 13,000/=go and return per day using both car and motorcycle. When this amount is calculated per month 264,000/= Tsh must be paid monthly excluding other charges for breakfast. The situation is different to teachers who live nearly to town such as Mungonya and Mwandiga secondary. They get up 7.20 and start journey by the so-called Bajaji whereby they pay 500 to their schools compared to those in remote schools who pay 13, 000/= daily. These teachers never face accommodation problems; this was a reason for their exclusion.

The study employed concurrent triangulation that nested explanatory research design supported by mixed approaches. Mixed methods are the type of research in which a researcher combines both qualitative and quantitative research data (Leavy, 2017). The term 'concurrent' indicates that both qualitative and quantitative data are being collected at the same time, mixed approaches helped the researcher to serve time and increase the validity of findings application of varieties of instruments such that the weakness of one method was compensated by another (Asenahabi, 2019) adopting pragmatism philosophical worldview assumption of which mixed-methods studies concentrates on the use of pluralistic approaches to derive knowledge about the problem. Combining both methods helped the researcher to overcome a weakness in using one method at the expense of the strengths of another (Schoonenboom & Johnson, 2017). Concerning explanatory research design was used because it tries to add up justification over quantitative data.

Data were collected and triangulated through questionnaire, documentary review, observation and interview.The term *triangulation* refers to the practice of using multiple sources of data or multiple approaches to analyzing data in order to enhance the credibility of findings (Flick, 2018). 44 teachers were given questionnaire while 5 school heads were interviewed. While school heads were purposively selected, teachers who have accommodation from those schools were automatically involved in the study as they were only ones lacking accommodations. Head of schools provided explanatory data related to teachers' performance in relation to lack of accommodations. Their information was important to have both quantitative and qualitative views. Analysis for quantitative data was done through statistical package for social science version 16 (SPSS). For qualitative data thematic analysis was employed by summarizing the key words. The presentation was done to establish findings and discussion.

Results and Discussion

Themes one: Accommodations in schools

Under objective one, the study sought to examine the current teachers' accommodations to support teachers' performance in remote Community Secondary Schools (CSS). Responses were presented in the Table 3.

Table 3: Status of Teachers' Accommodations

Question	**Frequencies of respondents**			
	Agree	Disagree	Neutral	Total
Are there teachers` accommodations in your school	44	0	0	44
Percent of the respondents	**100%**	**0%**	**0%**	**100%**
Did you witness teachers` accommodations at Kidahwe, Kagongo, Nymhoza, Mkigo, and Amahoro in your experience?	43	01	0	44
Percent of the respondents	**97.7%**	**2.3%**	**0%**	**100%**

Source: Researcher (2020)

In Table 3 above, the findings show two similar responses to different questions. The former findings revealed that there were no teachers' accommodations by 100%. Other teachers confirmed that they did not witness teachers` accommodations in schools involved in the study; Kidahwe, Kaogongo, Nymhoza, Mkigo, and Amahoro. One of the participants (2.3 %) indicated the presence of a single house for the head of school. The interview with ahead of school "A was done and revealed that "the *headmasters' house available in my school is in poor condition and the house is very old and no one is interested to live in it: said the headmaster".* This claim was conferred through observation made by the researcher in those schools; the situation was similar to earlier findings such that there was no house. The researcher found that the problem of accommodation is really acute.

Subtheme, Table 4: availability of teachers' accommodations in Absolute Frequencies

School	**Teachers accommodations per school**	**Total**	**Percentage**
Kidahwe	0	0	0%
Kagongo	0	0	0%
Nymhoza	0	0	0%
Mkigo and	0	0	0%
Amahoro	0	0	0%

Source: Researcher (2020)

However, these findings were compared to other previous researches; it was found that the research question is related to the study conducted by HakiElimu, (2010) in Lindi and Mtwara. It revealed that accommodation is a major problem faced by nearly all the teachers in community schools in Tanzania; there are simply not enough school accommodations, only a small proportion of teachers stay in the headmasters' house. According to the perspective, accommodations situation is slightly better for Secondary Schools teachers who work in boarding schools, where the number of staff accommodations is adequate. The researcher found that those teachers who live far away have poor job performance. With the interview, the heads of school witnessed this and identified that the major problem resulting from accommodations was insecurity particularly female, truancy, and late coming to both teachers and students. "*The female teachers seemed to be more at risk of being raped since sometimes villagers harassed them in their way back from fetching water," Said the head of school E.* In a similar observation, SEDP, (2010) contends that teachers articulate the need for living in satisfactory homes that possess facilities such as electricity, water, toilets, and kitchen. Good accommodations for many teachers however are not a reality (World Bank report, 2001). In rural schools, some houses are in an acute poor state to be used for accommodations though they are resided by Teachers. Status of teachers' houses in 2012 and 2013 in many regions showed that the situation was difficult. For example, in Arusha region, out of the required 14,769 and 15,200, the available were 3,139 and 3,502 while the shortages were 11,630 and 11,697 respectively. In Mwanza region, the required were 18,109 and 14,294; the available were 3,271 and 2,176 whereas it experienced shortages of 14,838 and 12,118 respectively (Table 4.1).

Sub-theme: Table 4.1: Status of Teachers' Houses in Some Selected Regions in Tanzania 2012/ 2013; Documentary Review

S/n	Region	2012			2013		
		Required	**Available**	**Shortage**	**Required**	**Available**	**Shortage**
1	**Arusha**	14,769	3,139	11,630	15,200	3,502	11,697
2	**Kagera**	12,868	2,185	10,683	10,581	2,139	8,442
3	**DSM**	12,988	741	12,247	14,214	844	13,370
4	**Kilimanjaro**	8,315	1,228	7,087	8,948	1,369	7,579
5	**Mwanza**	18,109	3,271	14,838	14,294	2,176	12,118
6	**Dodoma**	8,890	1,516	7,374	9,742	1,585	8,157
7	**Geita**	**-**	**-**	**-**	8608	1470	7138

Source: MoEVT, (2012)

Note: through this document, you may understand that Kigoma was not inclusive in the SEDP plan for 2012 and 2013 while community schools were operating and to dates still on observational data no accommodations were found by a researcher. The implication is the year 2012 and 2013 there was no plan for teachers' accommodations in Kigoma, it may be possible that even these mentioned currently may still on the plan theoretically. This requires further study.

Sub-theme: Table 5: Government Interest to teacher's accommodations

	Perception	Frequency	Percent	Cumulative Percent
Valid	strong Agree	18	40.9	40.9
	Agree	15	34.1	75.0
	Disagree	5	11.4	86.4
	Strong disagree	6	13.6	100.0
	Total	44	100.0	

Source: Field Data, (2020)

From Table 5, 40.9% (18) majority of participants agreed that teacher's accommodations were given last priority during the implementation of the Development Programme (SEDP). The minority constituting 13.6 % and 11.4% category strongly disagree. Using majority views (40.9%), the researcher found that the government put limited efforts to construct teacher's accommodations and more efforts were put on other items like classrooms, toilets and so on. According to an interview the majority of heads of schools said that when Community Secondary Schools Education Development Programme (SEDP) initiated in 2005, it aimed to build more classrooms; laboratories and teachers accommodations, unfortunately, schools operated without teacher's accommodations to date. *"In my opinion, I can say that the government had a lot of plans to cover hastily against limited resources. Until now my school has no house for even the headmaster" said the headmaster of the school "E'.* Our documentary reviews the priorities set by Tanzanian government to construct teacher's accommodations SEDP placed more considerations on students than needs than teachers. The findings were repeated by Ntulo, & Nawe, (2008) acknowledging that the interest to construct teacher's houses during the SEDP Programme was not practically implemented because when schools were opened, teachers' accommodations were yet to be in place.

Theme 2. Table 6, the effects on teachers job Performance

Perceptions		**Frequency**	**Percent**	**Cumulative Percent**
Failure to cover the syllabus	Strong Agree	10	22.7	22.7
Absenteeism from job	Agree	28	61.4	84.8
Attending periods	Disagree	0.0	0.0	0.0
Teachers lateness and class absenteeism	Strong disagree	6	13.6	3.6
				100.0
	Total	**44**	**100.0**	

Source: Field Data, (2020)

Under the objective, the study explored the extent accommodations has affected teachers' job performance in CSS. Respondents were as follows 22.7% strongly agreed, 61.4%. 0% disagreed and 13.6 % strongly disagreed. Majority by 61.4% indicated unsatisfactory attendance of periods by most of the teachers and general absence in classroom rates by 47%. The researcher further used the class journal and found that the numbers of periods were not taught. The syllabus was not covered; logbooks indicated that most teachers fail to complete the syllabus, the reasons that prompt the researcher teachers' poor performance is attributed to a lack of accommodations.

Further, Interview with the head of schools 'B" found that failure of some teachers to adhere to time on task in classrooms exist, the challenge is even common to school heads. "*I have mathematics lessons with the form four students but sometimes I arrive while tired or out of the timetable because of walking a long distance, the situation which could be contained in case I had accommodation nearby a school. Sometimes I find not being prepared to teach over tiredness".* Interview with the head of school "B" provided related facts also that *"Long-distance may cause teacher class absenteeism in class when they arrive being late which has negatively affected teacher job performance.* Adding, to large extent teachers depart too late in the sense that they cannot perform better their duties. ……..

"Alternatively, some teachers who stay far away from school would opt for troubles of walk to and from school. Roads are not passable; it is costly to ride the motorcycles. The car can just stop somewhere behind the mountain and the river cutting across to Nyamhoza school. The 6500 Tsh is paid once either back or going to school. For example, at Amahoro and Nyamhoza where there is no passable road to the school teachers pay between 12,000 go and return per day using both car and motorcycle. When this amount is calculated to the working day, more than 264,000 Tsh will be paid monthly".

Moreover, the research finds that Amahoro Secondary Schools has 10 teachers, while there is no even the headmaster's house. In Kidahwe headmasters' the house was used by 8 teachers who are not yet married just like a dormitory. The head of school argued that they decided to allocate unmarried teachers so that they save 8 accommodations in need. Shadreck, (2012) findings in Zimbabwe were found similar to the question in Tanzania where teachers cry for the lack of accommodations (Hakielim, 2005). HakiElimu, (2010), in Lindi and Mtwara, found that the accommodations for rural teachers are scarce. From these findings, rural areas were performing far worse by slightly 40 percent.

The deficiency of school's accommodations is a serious problem in the country that affects the majority of teachers. The deficit level is very high at an average of 80% in almost all regions in Africa while the demand for teachers' accommodations, latrines are also high (Charles, 2014). In Malawi teachers accommodations and performance in secondary schools is behind the Malawian expectations (Moleni, & Ndalama, 2004). The Adeyemi, (2011) study in Ekiti State, Nigeria showed a significant between 49 teacher performances in the rural and urban community Secondary Schools. It was measured by the number of periods taught and against those taught. During documentary review data for taught and untaught subjects were as follows:

Table 7 : Taught and Untaught Subjects

Subjects	**Community Secondary Schools**				
Biology	Kidahwe	Mkigo	Kagongo	Nyamhoza	Amohoro
Chemistry	X	V	V	V	X
History	X	X	X	V	V
Kiswahili	V	X	X	X	V
English	X	V	X	V	V
Geography	X	V	V	X	X
Mathematics	X	V	V	V	X
Civics	V	X	X	V	X

Source: Field data, (2020)

Key: √ **=** Subjects taught X = Subject not taught

Theme Three: Under this objective, the study explored the grounds for teachers' accommodations shortage in CSS. Respondents were given questionnaires and results are presented as follows:

Sub-theme: Table 8, the deficit in income and costs associated accommodations

Responses		**Frequency**	**Percent**	**Cumulative Percent**
Valid	Strong Agree	8	18.2	18.2
	Agree	22	50.0	68.2
	Disagree	7	15.9	84.1
	strong Disagree	7	15.9	100.0
	Total	**44**	**100.0**	

Source: Field Data, (2020)

In Table 8 above, findings were as follows 1: a minority of 18.2% strongly agreed, 50% agreed, minority by 16% were against the fact. Through an interview with the headmaster in school, C said '*when building this school we had the foundation already but we lacked fund for getting other materials for roofing. It was due to government deficit challenges and costs associated with the accommodations of teachers. Even those classes were also not available which forced the selected students to form one to be sent in other nearer schools to join".* The headmaster in school D; confirmed that government has limited capacity to construct teachers' accommodations *"even classrooms, chairs, playgrounds, laboratories, and libraries never exist in my school despite SEDP Programme"*. We found that the lack of teachers' accommodation is due to a lack of financial resources. Tanzanian government faces cash constraints. The findings were compared to those of Mohamed, (2017) and Bukobero, (2015) who cited that Tanzania government came with a recommendation policy, unfortunately, it was not implemented on providing accommodations allowance to teachers indicatively TZS 30,000 per month for every teacher. In view of both findings, it is wise to acknowledge that failure to put in place teachers' accommodations are caused by financial constraints. Scholars' findings and research findings had it that that financial resources contribute to the deficiency of teachers' accommodations in Tanzania.

Conclusion and Recomendations

In light of the findings, the problem of teachers' accommodations exists to a large extent in Kigoma remote Community Secondary Schools basically in Kidahwe, Mkigo, Kagongo, Nyamhoza, and Amohoro. Financial resources contribute to the deficiency of teachers' accommodations. The deficiency impacts on teachers' performance in the remote Community Secondary Schools due to numerous associated factors like long-distance that cause fatigue arriving at some teachers, failure to adhere to time on task, all these drawbacks lead into educators' failure to complete the set syllabus thus impacting the poor transition of students from O-level to 'A' level. The study recommends that the government set aside enough funds that will solve the accommodation problems contained once and for all. When necessary the government should be focusing on teachers being given transport allowances instead of locking them up at school Or rather it should build enough houses for teachers to rent under the condition of having their salaries deducted to cater for rental bills.

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Appendices

Appendix 1: Status of Teachers' Houses in Some Selected Regions in Tanzania 2012/ 2013

NB. Kigoma was not inclusive in the plan

S/n	Region	2012			2013		
		Required	Available	Shortage	Required	Available	Shortage
1	**Arusha**	14,769	3,139	11,630	15,200	3,502	11,697
2	**Kagera**	12,868	2,185	10,683	10,581	2,139	8,442
3	**DSM**	12,988	741	12,247	14,214	844	13,370
4	**Kilimanjaro**	8,315	1,228	7,087	8,948	1,369	7,579
5	**Mwanza**	18,109	3,271	14,838	14,294	2,176	12,118
6	**Dodoma**	8,890	1,516	7,374	9,742	1,585	8,157
7	**Geita**	-	-	-	8608	1470	7138

Source: MoEVT, (2012)

Appendix 2:No. 7- The Government priories to Staff Accommodations

Na	Item	Year 2004/2005	Year 2005/2006	Year 2006/2007	Year 2007/2008	Year 2008/2009
1	Classroom	458	251	2361	3015	5733
2	Laboratories	360	498	1038	1778	3480
3	Libraries	123	241	350	607	1200
4	Administration block	150	200	605	716	1216
5	Assembly Hall	125	205	400	603	2014
6	Toilet Holes	121	204	450	715	2067
7	**Staff Accommodations**	**1216**	**1988**	**3465**	**6010**	**12660**
7	Wetter Supply	122	200	368	612	1269
9	Electricity Supply	210	230	346	645	1350
10	Chairs	150,203	180,283	245,890	351,818	758,700
11	Tables	146,103	180,283	244,890	351,818	758,700
12	Hostel For Girls	121	155	185	213	674

Source: MOEVT, (2009)

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- When directly quoting from a source, you must include page number(s) and enclose the quote in double quotation marks.
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BOOKS & BOOK CHAPTERS

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One author – when fewer than 40 words are quoted Include the material in the paragraph and include specific page number/s. Use **quotation marks** to show the exact words.	An interesting view was expressed that "the connection of high profile developments to their surrounding environment has increasingly been questioned" (Cochrane, 2007, p. 117). ***OR*** An interesting view was expressed by Cochrane (2007) that "the connection of high profile developments to their surrounding environment has increasingly been questioned" (p. 117).	Cochrane, A. (2007). *Understanding urban policy: A critical approach.* Malden, MA: Blackwell Publishing.
One author – when 40 or more words are quoted Begin quoting the material on a new line, indent it 5 spaces (use the indent tool to keep all lines of the quote evenly indented), and include specific page number/s. **Omit** the quotation marks. Use **double spacing** for both your text and the indented quote. Make sure the quote is **exactly** as it was published.	Much has been written about acute care. Finkelman (2006), for example, points out that: There are many changes in acute care services occurring almost daily, and due to the increasing use of outpatient surgery, surgical services have experienced major changes. Hospitals are increasing the size of their outpatient or ambulatory surgery departments and adjusting to the need of moving patients into and out of the surgical service in 1 day or even a few hours. (p. 184). Recently, this trend has been seen in some Australian hospitals and research here…	Finkelman, A. W. (2006). *Leadership and management in nursing.* Upper Saddle River, NJ: Pearson Prentice Hall.

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Two authors	When considering the Howard Government's Indigenous health expenditure, Palmer and Short (2010) maintain that…	Palmer, G. R., & Short, S. D. (2010). *Health care and public policy: An Australian analysis* (4th ed.). Melbourne, Australia: Palgrave Macmillan.
Three to five authors For the first in-text reference, list all the authors' family names, then use the first author's family name followed by 'et al.' for subsequent entries.	A recent study (Seeley, VanPutte, Regan, & Russo, 2011) concluded that… ***Subsequent in-text reference/s:*** (Seeley et al., 2011).	Seeley, R., VanPutte, C., Regan, J., & Russo, A. (2011). *Seeley's anatomy & physiology*. New York, NY: McGraw-Hill.
Six to seven authors For all in-text references, list only the first author's family name followed by 'et al.' All authors are included in the Reference List. ***For books with eight or more authors, please follow the guidelines for journal articles with eight or more authors on page 7.***	The Russian Revolution may never have succeeded if there hadn't already been widespread discontent among the Russian populace (Bulliet et al., 2005).	Bulliet, R. W., Crossley, P. K., Headrick, D. R., Hirsch, S. W., Johnson, L. L., & Northrup, D. (2011). *The earth and its peoples: A global history* (5th ed.). Boston, MA: Wadsworth.
Works by different authors with the same family name For in-text references, include the initials of the authors in question to enable readers to differentiate between them. List references alphabetically by the authors' initials in the Reference List.	These techniques have been shown to improve test scores among primary school aged children (R. Smith, 2010). If funding were enhanced, it is arguable these problems could be ameliorated (C. J. Smith & Laslett, 1993).	Smith, C., & Laslett, R. (1993). *Effective classroom management: A teacher's guide* (2nd ed.). London,United Kingdom : Routledge. Smith, R. (2010). *Rethinking teacher education: Teacher education in the knowledge age*. Sydney, Australia: AACLM Press.

	IN-TEXT REFERENCE	REFERENCE LIST
Several works by the same author in different years When citing references separately, no special rule needs to be observed. When citing references collectively, separate years with a comma and insert years earliest to latest. List references chronologically (earliest to latest) in the Reference List.	These techniques have changed markedly in the last decade (Greenspan, 2000, 2011).	Greenspan, A. (2000). *Orthopedic radiology: A practical approach* (3rd ed.). Philadelphia, PA: Lippincott Williams & Wilkins. Greenspan, A. (2011). *Orthopedic imaging: A practical approach* (5th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.
Several works by the same author in the same year Arrange alphabetically by title in the Reference List. Place lowercase letters ("a", "b", "c", etc.) immediately after the year.	Leadership and change in schools have been major topics of discussion for several years (Fullan, 1996a, 1996b) and this conference… "Educational change" has taken on a new meaning in recent years (Fullan, 1996b) …	Fullan, M. (1996a). Leadership for change. In *International handbook for educational leadership and administration.* New York, NY: Kluwer Academic . Fullan, M. (1996b). *The new meaning of educational change*. London,United Kingdom: Cassell.
Several authors, different years, referred to collectively in your work List sources alphabetically by family name in the in-text reference in the order in which they appear in the Reference List. Separate each reference with a semicolon.	The cyclical process (Carr & Kemmis, 1986; Dick, 2000; Kemmis & McTaggart, 1988; MacIsaac, 1995) suggests…	Carr, W., & Kemmis, S. (1986). *Becoming critical: Education knowledge and action research.* London,United Kingdom: Falmer Press. Dick, B. (2000). *A beginner's guide to action research.* Retrieved from http://www.scu.edu.au/schools/gcm/ar/arp/guide.html Kemmis, S., & McTaggart, R. (Eds.). (1988). *The action research planner* (3rd ed.). Melbourne, Australia: Deakin University Press.

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eBook – online book - If the URL leads to information about how to obtain the book, use “Available from” instead of “Retrieved from”. - ***If the eBook has a DOI, add this in.***	We found helpful information about deaf children (Niemann, Greenstein, & David, 2004) that meant we could… ***OR*** Schiraldi (2001) offers solutions to PTSD.	Niemann, S., Greenstein, D., & David, D. (2004). *Helping children who are deaf: Family and community support for children who do not hear well.* Retrieved from http://www.hesperian.org/ publications_download_deaf.php Schiraldi, G. R. (2001). *The post-traumatic stress disorder sourcebook: A guide to healing, recovery, and growth* [Adobe Digital Editions version]. doi:10.1036/0071393722
An article/ chapter in eBook ***If the article/ chapter has a DOI, add this in.***	Screening is helpful to identify major depression in adults (Williams & Nieuwsma, 2016) …	Williams, J., & Nieuwsma, J. (2016). Screening for depression in adults. In J. A. Melin (Ed.), *UpTpDate*. Retrieved from https://www.uptodate.com/contents/screening-for-depression-in-adults
Chapter in edited book	A discussion about Australia’s place in today’s world (Richards, 1997) included reference to… ***OR*** Richards (1997) proposed that…	Richards, K. C. (1997). Views on globalization. In H. L. Vivaldi (Ed.), *Australia in a global world* (pp. 29-43). Sydney, Australia: Century.
Brochure – author is also publisher	The security of personal information is addressed in the TransACT brochure (TransACT, n.d.)	TransACT . (n.d.). *Guide to equipment and service* [Brochure]. Canberra, Australia: Author.
Editor	In discussing best practice, Zairi (1999) identified… ***OR*** Best practice indicators in management have been identified (Zairi, 1999) and…	Zairi, M. (Ed.). (1999). *Best practice: Process innovation management.* Oxford,United Kingdom: Butterworth-Heinemann.

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Compiler, *or* Reviser, *or* Translator Use the following abbreviations after the person's name in the Reference List: Comp. Rev. Trans.	This novel by Gaarder (1991/1994) provides an appealing approach to… ***OR*** Socrates has been described as "enigmatic" (Gaarder, 1991/1994, p. 50) which provides us with…	Gaarder, J. (1994). *Sophie's world: A novel about the history of philosophy* (P. Møller, Trans.). London,United Kingdom: Phoenix House. (Original work published 1991).
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Corporate author – commissioned reports	The report prepared by the South Australian Centre for Economic Studies (2009) was discussed.	South Australian Centre for Economic Studies. (2009). *Local government's current and potential role in water management and conservation: Final report.* Commissioned by the Local Government Association of South Australia. Adelaide, Australia: Author.
No date of publication	Some aspects of forensic science are more challenging than others (Browne, n.d.) and for this reason…	Browne, J. D. (n.d.). *Forensic science as a career*. London, England: Tower.
Second or later edition	Peters (2001, p. 6) argued that "..."	Peters, T. (2001). *The elements of counselling* (2nd ed.). Brisbane, Australia: Macmillan.
Multi-volume work	Inge, Duke and Bryer (1978, p. 27) claim that there is much to learn about these writers which results in… ***OR*** There is so much to learn about our country (Clark, 1978, p. 42) that we kept returning to…	Inge, M. T., Duke, M., & Bryer, J. R. (Eds.). (1978). *Black American writers: Bibliographical essays* (Vols. 1-2). New York, NY: St. Martins. Clark, C. M. H. (1978). *A history of Australia: Vol. 4. The earth abideth for ever, 1851-1888.* Australia: Melbourne University Press.

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Dictionary / Encyclopaedia – print Include information about editions, volume numbers and page numbers in parenthesis following the title in the Reference List.	According to one definition of "bivalence" (VandenBos, 2007, p. 123)…	VandenBos, G. R. (Ed.). (2007). *APA dictionary of psychology.* Washington, DC: American Psychological Association.
Dictionary / Encyclopaedia – online Include information about editions, specific volume numbers or page numbers in parenthesis following the title in the Reference List.	A psychological overview of ADHD (Arcus, 2001)…	Arcus, D. (2001). Attention deficit / hyperactivity disorder (ADHD). In B. Strickland (Ed.), *The Gale encyclopedia of psychology.* Retrieved from http://www.gale.cengage.com/ ***Note:*** If retrieved from a database, do a Web search for the home page of the publisher of the encyclopaedia and use the URL in the reference.

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Journal article with three to five authors For the first in-text reference, list all the authors' family names, then use the first author's family name followed by 'et al.' for subsequent entries. ***If the journal article has a DOI, add this in.***	A recent study to investigate the effects of an organisational stress management program on employees (Elo, Ervasti, Kuosma, & Mattila, 2008) concluded that… ***Subsequent in-text reference/s:*** (Elo et al., 2008)	Elo, A., Ervasti, J., Kuosma, E., & Mattila, P. (2008). Evaluation of an organizational stress management program in a municipal public works organization. *Journal of Occupational Health Psychology*, *13*(1), 10-23. doi: 10.1037/1076-8998.13.1.10
Journal article with six to seven authors For all in-text references, list only the first author's family name followed by 'et al.' All authors are included in the Reference List. ***If the journal article has a DOI, add this in.***	A simple ALMA is described in a recent study (Restouin et al., 2009).	Restouin, A., Aresta, S., Prébet, T., Borg, J., Badache, A., & Collette, Y. (2009). A simplified, 96-well–adapted, ATP luminescence–based motility assay. *BioTechniques, 47*, 871–875. doi: 10.2144/000113250
Journal article with eight or more authors For all in-text references, list only the first author's family name followed by 'et al.' In the Reference List, include the first six authors' names, then insert three ellipsis points (...), and add the last author's name. ***If the journal article has a DOI, add this in.***	Traumatic injury is the leading cause of death and disability worldwide (Steel et al., 2010).	Steel, J., Youssef, M., Pfeifer, R., Ramirez, J. M., Probst, C., Sellei, R., ... Pape, H. C. (2010). Health-related quality of life in patients with multiple injuries and traumatic brain injury 10+ years postinjury. *Journal of Trauma: Injury, Infection, and Critical Care, 69*(3), 523-531. doi: 10.1097/TA.0b013e3181e90c24
Journal or magazine article with no volume or issue number ***If the journal article has a DOI, add this in.***	Wychick and Thompson (2005) foreshadow that scam will still be enticing… ***OR*** An interesting approach to scam (Wychick & Thompson, 2005) suggested that…	Wychick, J., & Thompson, L. (2005, November 24). Fallen for a scam lately? *AustraliaToday,* 54-60.

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Journal article retrieved from a database – with a DOI (Digital Object Identifier) A DOI is a unique, permanent identifier assigned to articles in many databases. **Always** include the DOI if one is provided (usually in the article's full-text, abstract or database record). If there is a DOI, no other retrieval information is necessary.	A study examining priming (Johns & Mewhort, 2009) discovered …	Johns, E., & Mewhort, D. (2009). Test sequence priming in recognition memory. *Journal of Experimental Psychology: Learning, Memory and Cognition, 35*, 1162-1174. doi: 10.1037/a0016372
Journal article – in press	Influence of music in running performance (Lee & Kimmerly, in press) …	Lee, S., & Kimmerly, D. (in press). Influence of music on maximal self-paced running performance and passive post-exercise recovery rate. *The Journal of Sports Medicine and Physical Fitness*.
Journal article – **Cochrane Review with DOI**	Overweight and obesity are increasing throughout the industrialised world (Shaw, O'Rourke, Del Mar, & Kenardy, 2005) …	Shaw, K., O'Rourke, P., Del Mar, C., & Kenardy, J. (2005). Psychological interventions for overweight or obesity. *The Cochrane database of systematic reviews* (2). doi:10.1002/14651858.CD003818.pub2
Journal article retrieved from a database – without a DOI - If there is no DOI, do a Web search to locate the URL of the journal's home page & include it in the Reference List. The journal URL can sometimes be found in the database record or in the full text view of the article. - If the online article is ONLY available from a database (e.g. for discontinued journals where the journal home page doesn't exist), include the entry page URL of the database where it was found. Give the database name if not in the URL.	The effects of climate change on agriculture are studied by Ramalho, Da Silva and Dias (2009)… Primary care is one area marked for improvement (Purtilo, 1995).	***Example using URL of journal home page:*** Ramalho, M., Da Silva, G., & Dias, L. (2009). Genetic plant improvement and climate changes. *Crop Breeding and Applied Biotechnology, 9*(2), 189-195. Retrieved from http://www.sbmp.org.br/cbab ***Example using URL of database (where there is no journal home page):*** Purtilo, R. (1995). Managed care: Ethical issues for the rehabilitation professions. *Trends in Health Care, Law and Ethics, 10*, 105-118. Retrieved from http://www.proquest.com

	IN-TEXT REFERENCE	REFERENCE LIST
Book review in a journal	In his review of Thomas Samaras' latest book, Marson (2009) identifies…	Marson, S. M. (2009). How big should we be? A Herculean task accomplished [Review of the book *Human body size and the laws of scaling: Physiological, performance, growth, longevity and ecological ramification,* by T. Samaras]. *Public Health Nutrition, 12*, 1299–1300. doi:10.1017/S1368980009990656
Newspaper article – with an author	The notion of a Bill of Rights may be inappropriate in the Australian context (Waterford, 2007).	Waterford, J. (2007, May 30). Bill of Rights gets it wrong. *The Canberra Times,* p. 11.
Newspaper article – without an author	The redesign of the Internet ("Internet pioneer", 2007) is said to…	Internet pioneer to oversee network redesign. (2007, May 28). *The Canberra Times,* p. 15.
Newspaper article retrieved from a database Do a Web search to locate the URL of the newspaper's home page & include it in the Reference List.	In an attempt to save the tiger, Darby (2002) provided…	Darby, A. (2002, August 20). Rarest tiger skin a rugged survivor. *Sydney Morning Herald.* Retrieved from http://www.smh.com.au
Article in an online newsletter	Australia's casualty rate was almost 65 per cent - the highest in the British Empire ("Australians and the Western Front", 2009)	Australians and the Western Front. (2009, November). *Ozculture newsletter.* Retrieved from http://www.cultureandrecreation. gov.au/ newsletter/

CONFERENCE / SEMINAR PAPERS

Conference or seminar papers in published proceedings – print If the paper is from a book, use the Book chapter citation format. If it is from regularly published proceedings (e.g. annual), use the Journal article citation format.	In a paper about conservation of photographs (Edge, 1996), the proposition that…	Edge, M. (1996). Lifetime prediction: Fact or fancy? In M. S. Koch, T. Padfield, J. S. Johnsen, & U. B. Kejser (Eds.), *Proceedings of the Conference on Research Techniques in Photographic Conservation* (pp. 97-100). Copenhagen, Denmark: Royal Danish Academy of Fine Arts.

	IN-TEXT REFERENCE	REFERENCE LIST
Conference or seminar papers in published proceedings – online	Tester (2008) points to the value of using geothermal sources for power and energy.	Tester, J. W. (2008). The future of geothermal energy as a major global energy supplier. In H. Gurgenci & A. R. Budd (Eds.), *Proceedings of the Sir Mark Oliphant International Frontiers of Science and Technology Australian Geothermal Energy Conference,* Canberra, Australia: Geoscience Australia. Retrieved from http://www.ga.gov.au/image_cache/ GA11825.pdf

GOVERNMENT PUBLICATIONS

Government department as author Spell out the full name of the body each time it is cited in-text, unless it is long and has a familiar/easily understood abbreviation. In the latter case, give the full name with the abbreviation for the first in-text reference. Use the abbreviation for subsequent references.	The need for guidelines to manage and use multiple channels to deliver e-government services (Department of Finance and Administration [DOFA], 2006) presents Australian Government agencies with… ***Subsequent in-text reference/s:*** DOFA (2006) identified …	Department of Finance and Administration. (2006). *Delivering Australian Government services: Managing multiple channels.* Canberra, Australia: Author.
Government publication – with identifying number Includes report numbers, catalogue numbers, etc.	Recently released statistics from the Australian Bureau of Statistics (ABS) (2007) reveal interesting changes in Australian society. ***Subsequent in-text reference/s:*** The ABS (2007) reported that …	Australian Bureau of Statistics. (2007). *Australian social trends* (Cat. no. 4102.0). Canberra, Australia: ABS.
Government report – online	***First in-text reference:*** A recent government report (Department of the Prime Minister and Cabinet [PM&C], 2008) examines a selection of key topics … ***Subsequent in-text reference/s:*** Families in Australia were highlighted (PM&C, 2008)…	Department of the Prime Minister and Cabinet. (2008). *Families in Australia: 2008.* Retrieved from http://www.dpmc.gov.au/ publications/families/index.cfm#contact
Government approved standards	…and “including data in computer systems, created or received and maintained by an organisation” (Standards Australia, 1996, p. 7) as well as…	Standards Australia. (1996). *Australian Standard AS 4390: Records Management.* Sydney, Australia: Author.

	IN-TEXT REFERENCE	REFERENCE LIST

LEGISLATION

Note: For more comprehensive information please consult the following publication: *The bluebook: A uniform system of citation* (19th ed.). (2010). Cambridge, MA: Harvard Law Review Association.

	IN-TEXT REFERENCE	REFERENCE LIST
Act – print	According to s. 8.1 of the *Anti-Discrimination Act 1977* (NSW), it is unlawful for an employer to discriminate against a person on the ground of race.	*Anti-Discrimination Act 1977* (NSW) s. 8.1 (Austl.). ***Follow this convention:*** *Short Title of the Act* (in italics) *Year* (in italics) (Jurisdiction abbreviation) Section number Subdivision, if relevant (Country abbreviation).
Bill – print	The Mental Health Bill 2013 (WA) prohibits…	Mental Health Bill 2013 (WA) (Austl.). ***Follow this convention:*** Bill Name (no italics) Year (Jurisdiction abbreviation) (Country abbreviation).
Act & Bill – online	According to s. 8.1 of the *Anti-Discrimination Act 1977* (NSW), it is unlawful for an employer to discriminate against a person on the ground of race.	*Anti-Discrimination Act 1977* (NSW) s. 8.1 (Austl.). Retrieved from http://www.legislation.nsw.gov.au/maintop/scanact/inforce/NONE/0
Case	According to Ellis v. Wallsend District Hospital (1989)… …in a land right case (*Mabo v. Queensland*, 1988)…	*Ellis v. Wallsend District Hospital* 1989 17 NSWLR 553 (Austl.). *Mabo v. Queensland* 1988 166 CLR 186 (Austl.). ***Follow this convention:*** *Case Name* (in italics) Year Volume number Reporter abbreviation First page number (Country abbreviation).

IMAGES, MUSIC & AUDIOVISUAL MEDIA

	IN-TEXT REFERENCE	REFERENCE LIST
CD recording	Lyrics from Paul Kelly's song "From Little Things Big Things Grow" (Kelly, 1997, track 10) were used in recent television advertisements.	Kelly, P. (1997). From little things big things grow. On *Songs from the south: Paul Kelly's greatest hits* [CD]. Melbourne, Australia: Mushroom Records.
DVD / Videorecording	Jane Austen's world came alive in *Sense and sensibility* (Lee, 1995)	Lee, A. (Director). (1995). *Sense and sensibility* [DVD]. Australia: Columbia TriStar Home Video.

	IN-TEXT REFERENCE	REFERENCE LIST
Figure, Table, Graph, Map or Chart Cite each of these as you would for a book. Include, in square brackets, the type of entry immediately after the title: [Figure]. [Table]. [Map]. [Graph]. [Chart].	**Graph** The internal processes were well described (Kaplan & Norton, 2004) which led to… **Map** To locate a property just outside the Australian Capital Territory, use the 1:100 000 map produced by Geoscience Australia (2004) which covers…	**Graph** Kaplan, R. S., & Norton, D. P. (2004). Internal processes deliver value over different time horizons [Graph]. In *Strategy maps: Converting intangible assets into tangible outcomes* (p. 48). Boston, MA: Harvard Business School. **Map** Geoscience Australia [NATMAP] (Cartographer). (2004). *ACT region, New South Wales and Australian Capital Territory* [Map]. Canberra, Australia: Author.
Image – online	The effective use of light in Monet's 'Haystacks' (Monet, 1890)…	Monet, C. (1890). *Haystacks, midday* [Painting]. National Gallery of Australia, Canberra. Retrieved from http://artsearch.nga.gov.au/ Detail-LRG.cfm?IRN=29073&View=LRG
Liner notes	The American jazz trombonist, bandleader and composer Jack Teagarden (Weiner, 1995)…	Weiner, D. J. (1995). [Liner notes]. J. Teagarden (Composer), *Big 'T' jump* [CD]. USA: Jass Records.
Score	Craig Scott is one of Australia's leading bassists (Scott, 2013)	Scott, C. (2013). *C minor waltz: For jazz quintet* [Score]. Sydney, Australia: Craig Scott
Streamed music	An analysis of the jazz piano style of "What's Your Story Morning Glory" (Williams, 1978, track 8) reveals…	Williams, M. L. (1978). What's your story morning glory. On *Mary Lou Williams: Solo recital, Montreux Jazz Festival* [CD]. Fantasy. Retrieved from Naxos Music Library Jazz.
Interview – on radio	In a recent interview with the Prime Minister (Mitchell, 2009)…	Mitchell, N. (Presenter). (2009, October 16). Interview with the Prime Minister, Kevin Rudd. In *Mornings with Neil Mitchell* [Radio broadcast]. Melbourne, Australia: Radio 3AW.
Interview – on television	He demonstrated his professionalism and sensitivity in an interview with Raelene Boyle (Denton, 2006) and…	Denton A. (Producer and Interviewer). (2006, September 25). Interview with Raelene Boyle. In *Enough Rope with Andrew Denton.* [Television broadcast]. Sydney, Australia: Australian Broadcasting Corporation.
Motion picture (movie)	Jackson and Pyke (2003) provide evidence that belief in a world…	Jackson, P. (Director), & Pyke, S. (Producer). (2003). *The lord of the rings: The return of the king* [Motion picture]. New Zealand: Imagine Films. ***Note:*** Give the country where the movie was made – not the city.

	IN-TEXT REFERENCE	REFERENCE LIST
Podcast (audio)	Listening to the news on my MP3 player (Nolan, 2007) was a new experience and I decided…	Nolan, T. (Presenter). (2007, April 28). *AM: News & current affairs* [Audio podcast]. Retrieved from http://abc.net.au/news/subscribe/amrss.sml
Radio program – broadcast	When discussing how people write about music, Koval (2009)…	Koval, R. (Presenter). (2009, November 19). *The Book Show* [Radio broadcast]. Melbourne, Australia: ABC Radio National.
Radio program – transcript	The views of the internationally renowned author and public speaker, De Bono, prompted me to follow up one of the interviews (Mascall, 2005) which…	Mascall, S. (Reporter). (2005, February 14). Are we hardwired for creativity? In *Innovations* [Radio program] [Transcript]. Melbourne, Australia: ABC Radio Australia. Retrieved from http://www.abc.net.au/ra/innovations/stories/s1302318.htm
Speech – online	In her ANZAC Day speech (Clark, 2007), the Prime Minister of New Zealand referred to…	Clark, H. (2007, April 25). *Prime Minister's 2007 ANZAC Day message* [Transcript]. Retrieved from http://www.anzac.govt.nz
Television advertisement	The problems of teenage anxiety were graphically captured (Beyondblue, 2009)…	Beyondblue (Producer). (2009, November 29). *Beyondblue: Anxiety* [Television advertisement]. Canberra, Australia: WIN TV.
Television program – broadcast	Examining future plans for Canberra's city area (Kimball, 2009)…	Kimball, C. (Presenter). (2009, September 4). *Stateline* [Television broadcast]. Canberra, Australia: ABC TV. ***Note:*** Always check the television station's website and use the transcript, if one is available, for direct quotes.
Television program – transcript	Cyclones often affect Australia, especially in the north (McLaughlin, 2004) and it is worthwhile…	McLaughlin, M. (Presenter). (2004, November 7). Cyclone Tracy. In *Rewind* [Television program] [Transcript]. Sydney, Australia: ABC TV. Retrieved from http://www.abc.net.au/tv/rewind/txt/s1233697.htm

	IN-TEXT REFERENCE	REFERENCE LIST
THESIS OR DISSERTATION		
Thesis or Dissertation – print	Nurses working in an acute care environment tend to experience a high degree of workplace conflict (Duddle, 2009).	Duddle, M. (2009). *Intraprofessional relations in nursing: A case study* (Unpublished doctoral thesis), University of Sydney, Australia.
Thesis or Dissertation – retrieved from a database	The field of engineering has largely developed around the positivist philosophical position (Hector, 2008).	Hector, D. C. A. (2008). *Towards a new philosophy of engineering: Structuring the complex problems from the sustainability discourse* (Doctoral thesis). Available from Australasian Digital Theses database. (Record No. 185877) ***Note:*** End the reference with the unique number or identifier assigned to the thesis/dissertation.
Thesis or Dissertation – retrieved from the web	Lacey (2011) differentiates between instrumental violence and violence inflicting injury for its own sake.	Lacey, D. (2011). *The role of humiliation in collective political violence* (Masters thesis, University of Sydney, Australia). Retrieved from http://hdl.handle.net/2123/7128
UNIVERSITY PROVIDED STUDY MATERIALS		
Lecture / tutorial notes, etc. – online	Septicaemia is one of many infections commonly acquired in hospitals (Maw, 2010) …	Maw, M. (2010). *NURS5082 Developing nursing practice, lecture 2, week 1: Healthcare-associated infections and their prevention* [Lecture PowerPoint slides]. Retrieved from http://learn-on-line.ce.usyd.edu.au/
SOCIAL MEDIA		
Facebook update List the author's name as it is written (including nicknames).	$52 million will be provided to deploy Australian civilian troops (Rudd, 2009)	Rudd, K. (2009, October 24). Australian civilian corps to help in crises [Facebook update]. Retrieved from http://www.facebook.com/note.php?note_id=200124043571&ref=mf
Blog post - List the author's name as it is used in the posting (including nicknames). - For a blog comment, use 'Blog comment' instead of 'Blog post' and include the exact title (including 'Re:' if used)	The plight of the flapper skate was recently highlighted (Keim, 2009)…	Keim, B. (2009, November 18). ID error leaves fish at edge of extinction [Blog post]. Retrieved from http://www.wired. com/wiredscience/2009/11/extinction-error/

	IN-TEXT REFERENCE	REFERENCE LIST
Video blog post (eg YouTube)	The Prime Minister, speaking about Australia's role in the G20 forum (Rudd, 2009)…	Rudd, K. (2009, September 29). Update on new G20 arrangements [Video file]. Retrieved from http://www.youtube.com/watch?v=i8IdJ-0S5rs
Twitter tweet If the author uses their name as their Twitter 'handle', do not alter its format to follow the convention of 'Family name, Initial(s).'	President Obama announced the launch of the American Graduation Initiative (BarackObama, 2009).	BarackObama. (2009, July 15). Launched American Graduation Initiative to help additional 5 mill. Americans graduate college by 2020: http://bit.ly/gcTX7 [Twitter post]. Retrieved from http://twitter.com/BarackObama/status/2651151366 ***Note:*** This reference would be filed under 'B', not 'O'
Discussion group, list, etc. – online	There are strongly held views about knowledge management (Weidner, 2007) and from personal experience…	Weidner, D. (2007, June 11). KM reducing in popularity [Discussion list message]. Retrieved from http://actkm.org/mailman/listinfo/actkm_actkm.org
Wiki Include the date retrieved, as the information is likely to change in these sources.	The role of media corporations in the media literacy movement is discussed ("Great debates in media literacy", n.d.)	Great debates in media literacy: Theory and practice of media literacy. (n.d.). In *Wikiversity.* Retrieved October 27, 2009, from http://en.wikiversity.org/wiki/Great_Debates_in_Media_Literacy

PERSONAL COMMUNICATION AND EMAIL

Personal communication Includes private letters, memos, email, telephone conversations, personal interviews, etc. These are cited in-text only, not in the Reference List.	J. Francis (personal communication, August 6, 2007) was able to confirm that the floods had not reached their area.	**Not included in Reference List. Cite in-text only.**
Email – NEVER cite addresses without permission of the owner of the address	Ms Coleman (personal communication, July 11, 2007) provided details in an email and we acted on that information.	**Not included in Reference List. Treat as personal communication and cite in-text only.**

	IN-TEXT REFERENCE	REFERENCE LIST

WEB RESOURCES

Web document – author or sponsor given, dated ***Note:*** A web document is a file (e.g. a Word or PDF file) found on the Web. Often there are links to Web documents from Web pages. A Web document is not the same as a web page.	An RBA paper (Simon, Smith, & West, 2009) found that participation in a loyalty program and access to an interest-free period…	Simon, J., Smith, K., & West, T. (2009). *Price incentives and consumer payment behaviour.* Retrieved from the Reserve Bank of Australia website: http://www.rba.gov.au/ PublicationsAndResearch/RDP/RDP2009-04.html
Web document – author or sponsor given but not dated	The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is designing several energy-efficient electric machines to reduce greenhouse gas emissions (CSIRO, n.d.).	Commonwealth Scientific and Industrial Research Organisation. (n.d.). *Reducing Australia's greenhouse emissions factsheet.* Retrieved from http://www.csiro.au/ resources/ps282.html
Web page with no page numbers *Include in in-text references:* - If directly quoting, a paragraph number with the abbreviation 'para' (count paragraphs if numbers are not visible) ***OR*** - A section heading and paragraph number (e.g. Introduction, para. 3). A long section heading may be shortened and enclosed in double quotation marks. ***Note:*** Because Web pages can be updated, you must include the date on which you accessed the source.	Usually the author or creator of a work is the copyright owner (University of Sydney, 2010). When directly quoting a section of a webpage, you will need to include more information: (University of Sydney, 2010, "Who owns copyright?", para. 1). ***Note:*** The heading of the section was "Who owns copyright?"	University of Sydney. (2010). *Guide to copyright*. Retrieved March 21, 2011, from http://sydney.edu.au/copyright/students/ coursework.shtml#who

	IN-TEXT REFERENCE	REFERENCE LIST
Web source – no author or sponsor given When there is no author for a source you find on the Web (whether it be a Web document or a Web page), the title moves to the first position of the reference entry. If the title is long, use an abbreviated version of it for in-text citations. Insert double quotation marks around the title ***Note:*** If you were citing the title of a book, periodical, brochure or report, you would use italics rather than double quotation marks.	This vaccine is 6 times more efficient than vaccines previously used to immunise against the condition ("New child vaccine", 2001).	New child vaccine gets funding boost. (2001). Retrieved April 16, 2012, from http://news.ninemsn.com.au/health/story_13178.asp
Website – entire website	The new website of the Department of Education, Employment and Workplace Relations (http://www.deewr.gov.au) includes useful information on current government education policy.	**Not included in Reference list.**

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