Universiti Utara Malaysia

THE MEDIATING EFFECT OF SCHOOL BASED MANAGEMENT ON CLIMATE, BUREAUCRACY AND EFFECTIVENESS IN NIGERIA SECONDARY SCHOOLS

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Abstrak

Keberkesanan sekolah adalah merupakan suatu isu global dalam kalangan pihak berkepentingan di bidang pendidikan terutamanya di negara-negara membangun yang menghadapi kesukaran untuk menyampaikan pendidikan yang berkualiti dengan meluas. Walau bagaimanapun, faktor dalaman dan luaran serta kerumitan pentadbir di sekolah membuat keputusan tidak dapat diramalkan, justeru itu birokrasi adalah cara yang berkesan dan sistematik yang boleh digunakan untuk mengkaji struktur organisasi dan tingkah laku manusia secara langsung. Kajian ini menyelidik kesan iklim sekolah dan birokrasi ke atas keberkesanan dengan pengantaraan hubungan melalui pengurusan berasaskan sekolah. Empat set instrumen diadaptasi daripada kajian Ruane (1995), MacKay dan Robinson (1966), Hoy dan Ferguson (1985) dan Bandur (2008) yang melibatkan sampel seramai 350 orang guru sekolah menengah di Negeri Kwara, Nigeria melalui kaedah tinjauan. Analisis awal data terdiri daripada analisis deskriptif, sementara ujian normal dan analisis komponen utama pula dilakukan melalui Pakej Statistik Sains Sosial (SPSS). Analisis Pemodelan Persamaan Berstruktur (SEM) dengan Analisis Struktur Momen (versi AMOS 23.0) digunakan untuk mengesahkan hipotesis yang dijana untuk kajian ini, dan menguji kesesuaian data berhubung dengan model yang dicadangkan. Dapatan kajian mendapati bahawa terdapat kesan pengantaraan hubungan pengurusan berasaskan sekolah terhadap birokrasi dan keberkesanan sekolah dan dalam masa yang sama juga analisa mendapati bahawa pengurusan berasaskan sekolah tidak menjadi perantara diantara iklim sekolah dan keberkesanan sekolah. Justeru itu, kajian ini mengesahkan teori berkaitan birokrasi keperluan di sekolah awam. Ia juga membuktikan bahawa walaupun iklim sebagai satu faktor utama, komposisi dan struktur sekolah berbeza mengikut konteks. Hal ini secara signifikan dapat meningkatkan kemampuan pentadbiran menggerakkan ahli secara kolektif bagi memperkukuhkan sistem sekolah.

Kata kunci: Iklim sekolah, Birokrasi, Keberkesanan sekolah, Pengurusan berasaskan sekolah, Sekolah menengah.

Abstract

School effectiveness is a global issue among education stakeholders particularly in developing countries where difficulties in delivering quality education are widespread. However, internal and external factors in schools make school outcomes unpredictable, thus making bureaucracy an effective managerial and analytical tool which can be used to examine organizational structure and direct human behaviour. This study examined the effect of the school climate and bureaucracy on effectiveness by means of mediating the relationships through school-based management through a quantitative research of the cross-sectional survey type with population of 7,533 teachers. Four sets of instruments were adapted from the study of Ruane (1995), MacKay and Robinson (1966), Hoy and Ferguson (1985) and Bandur (2008) and were administered on a sample of 350 teachers in Nigeria secondary schools through a stratified random sampling of the proportionate method. The preliminary analysis of data was done through the Statistical Package of Social Sciences (SPSS). The Structural Equation Modelling (SEM) analysis with the Analysis of Moment Structures (AMOS 23.0 version) was employed to test the fitness of data in relation to the constructs in the model and further confirm hypotheses generated for this study. The findings of this study revealed that, the underlying predictors were true measure of their respective constructs. There was a mediating effect of school-based management on bureaucracy and school effectiveness while the other path analysis revealed that school-based management did not mediate between school climate and school effectiveness. This study expands theory on bureaucracy as bright side and validates the assertion that, bureaucracy is required in public schools. It further proves that, even though climate is a key factor in school, the composition and structure of school differ across context. This can significantly increase the administration's ability to collectively address member's interest and further strengthen the school system.

Keywords: School climate, bureaucracy, school effectiveness, school-based management, secondary schools.

Acknowledgement

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List of Abbreviations

FGN	Federal Government of Nigeria
NPC	National Population Commission
NPE	National Policy on Education
USAID	United States Agency for International Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
OECD	Organization for Economic Co-operation and Development
UBE	Universal Basic Education
SBM	School Based Management
SDC	School Development Committee
CS	Committee System
SEM	Structural Equation Modelling
AMOS	Analysis of Moment Structures
SPSS	Statistical Package for Social Sciences
MoEHCD	Ministry of Education and Human Capital Development
SSCS	Saskatchewan School Climate Scale
SOI	School Organization Inventory
TALIS	Teaching and Learning International Survey
CFA	Confirmatory Factor Analysis
PCA	Principal Component Analysis
MCAR	Missing Completely at Random
MAR	Missing at Random
NMAR	Non-Ignorable Missing at Random
NCE	Nigeria Certificate in Education
ND	National Diploma
HND	Higher National Diploma
GFI	Good of Fit Index
RMSEA	Root Mean Square Error of Approximation
CFI	*C*omparative Fit Index
NFI	Normed Fit Index
AGFI	Adjusted Goodness of Fit Index
PNFI	Parsimonious Normed Fit Index

AVE   Average Variance Explained

DF   Degrees of Freedom

P-Value   Probability Value

CMIN (X^2)   Chi-Square

X^2/DF   Chi-square/Degrees of Freedom

SE   Standardized Estimates

CR   Critical Ratio

UUM   Universiti Utara Malaysia

CHAPTER ONE

INTRODUCTION

1.1   Introduction

Education and has been regarded as the high contribution that any nation can use for the speedy improvement of an individual and material resources (FGN, 2013). It is a fundamental right that every citizen is expected to enjoy, that is why schools should provide a healthy environment that would help teacher and student maintain good behaviour necessary for achieving excellence.

There is no gain saying that secondary education is not only important but unique in the educational system of a nation. Secondary education which is the key transition stage from basic to tertiary is a fundamental level of education that offers to foster learner moral and intellectual capabilities in preparing them for independent and meaningful life and for further education. Having realised this, the Nigerian government has adopted education as an instrument for national development. Hence, an organization like secondary school is value driven with techniques and structures aiming at training the younger generation to be able to solve their immediate problems, perform their social responsibility, develop and promote world's cultural heritage and compete globally (Federal Government of Nigeria, 2013; USAID, 2012).

However, noteworthy progress in expanding capacity of secondary education has been attained by governments in their various countries, leading to a substantive growth in secondary education all over the world. This is evident in the 50% global rise recorded in the number of teachers in secondary schools from 20.3 million to 30.4 million

between 1990 and 2009, with the highest growth of 157% observed in Sub-Saharan Africa (UNESCO, 2011). Consequent upon this, intense pressure is being felt at the secondary level worldwide in order to cater for the growing demand for further opportunities (Sahlberg, 2007; Global Education Digest, 2011).

Accordingly, Aslanargun (2012) submitted that, school comprises of group of individuals with distinctive characteristics operating in an open system with internal and external factors pressing on them for its smooth operations. Even though there are diversities in school practices based on several antecedents; administrative practices and leadership can influence the effectiveness of school, performances of student or teacher and the overall outcome of the school (Beatriz, Deborah, & Hunter, 2008; Organization for Economic Cooperation and Development, 2001).

Besides, Argyrious (2015) stated that, an effective school administration is crucial to the attainment of educational goals, since the outcome of education is significantly influenced by the organizational characteristics of the school such as leadership, climate, level of management and development plan. It is therefore important to implore necessary skills towards the management of human and material resources in the school system for a sustainable development and effective school administration.

Furthermore, there are several individuals in the school system occupying various positions and status with several roles to perform as required towards goal attainment of the school; these commitment and support strengthen the school system and foster the relationship among staff and students which may lead to a better outcome in the

system (Ekundayo, 2010). In other words, effectiveness of the system is a collective effort of individual members of the school especially the head (principal) who is the chief administrator and fundamental change agent that set the stage for all other concerned members in the school.

1.2   Background of the Study

A common and earth-shattering issue associated with education is organizational structure which controls the administration of schools. That is, the ability to manage school for progressive improvement and overall goal achievement. The issue of effectiveness has been a concern to stakeholders in the education sector particularly government, teachers, parents and members of the society. Thus, considerable attention has been given towards effectiveness of school system due to the significant role it plays in educational development and improvement.

In most countries of the world, the assessment of school effectiveness differs in a variety of perspectives, hence, there is no ultimate criterion construct suitable for assessing the effectiveness of an organization globally (Alammar, 2015; Daft, 2007; Hofman, Hofman, Gray, & Wendy Pan, 2015; Malik, Ghafoor, & Naseer, 2011; Saleem, Naseem, Ibrahim, Hussain, & Azeem, 2012; Scheerens, 2013a). The success or failure of a school can therefore be revealed through the attitude and performance of members (Saleem et al., 2012). The effectiveness, which is the collective outcomes of teacher goal and commitment to work, administrative management practices and student performances according to Boonla and Treputtharat (2014) should all bring about a higher level of school performance.

Some common issues that makes a good school especially those affecting student learning outcome in social development and academic pursuit were discussed in some studies which specified that, effectiveness is a function of organisation and management of schools, leadership, and the entire learning environment (Ranson, Farrell, Peim, & Smith, 2005; Reynolds, et al., 2014). This implies that, several issues like curriculum, learning environment, formal and informal organizations all encompasses a wide range of factors that contribute to the effectiveness of school.

Similarly, growing body of research evidences have shown the importance of school effectiveness and supportive school environments greatly improve and facilitate positive relationship necessary for production, contribution and satisfaction among school teachers (Rahmatullah, 2016; Ranson et al., 2005; Uline & Tscannen-Moran, 2008). Studies have also established the connection between a positive school outcome with students' behavioural and educational outcome, socio-emotional wellbeing, healthy social interaction, leadership behaviour, safety, teacher engagement and retention (Bradshaw, Waasdorp, Debnam, & Johnson, 2014; Wang, Vaillancourt, Brittain, McDougall, Krygsman, Smith, Cunningham, Haltigan & Hymel, 2014).

Equally important are the effectiveness of a school system attributed to the school management, community involvement, and working environment, governance, supportive school climate and community participation as determining factors that have highly essential contributions towards school effectiveness (Duze & Ogbah, 2013). Some of these factors were used to elucidate effectiveness by Hofman et al.

(2015); Ranson, Farrell, Peim, and Smith, (2005). In an exploratory study on effectiveness among 250 Dutch primary schools using teacher, school and governance with focus on bureaucratic structure of public schools as indicators of effectiveness. The study found a positive impact of school governance on student achievement in mathematics (Hofman et al., 2015).

Generally, it has been acknowledged by many studies that climate is an interesting variable to be observed by educational practitioners and researchers in the areas of school administration and management, especially in the study of student academic achievement and teacher productivity (Adeogun & Olisaemeka, 2011; Cohen & Geier, 2010; Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Thapa, Cohen, Guffey, & Higgins-D 'alessandro, 2013).

This may be due to the acceptance of the fact that, school climate is instrumental to improving motivation and commitment among teacher and also one of the tools used in achieving positive school outcome (Tagoe, 2014; Thapa et al., 2013; Thapa, Cohen, Higgins-D'Alessandro, & Guffey, 2012; Werang, 2014; Yusof, 2012). Moreover, researchers like Adejumobi and Ojikutu (2013), Dagnew (2014) and Zahid (2014) have considered school climate as an essential factor in school improvement, teacher job performance and also student academic performance.

However, Smith, Connolly and Pryseski (2014) posited that, the principal can change the climate of the school depending on the existing features of the school which include school history, available resources, students and staff that work there. It was

further buttress that, without collaboration with teacher and student, the school head is likely to be ineffective. His work depends on the support received from members of the school. Therefore, it can be inferred that, school principal depends on teachers and teachers also depend on the principal.

Apart from school climate, bureaucracy also plays momentous role in achieving the school effectiveness. Punch (1972) postulated that, once school priorities are acknowledged, certain levels of bureaucratization in the organizational structure would be appropriate in the realization of the school goals. Besides, one of the significant components of bureaucracy is some well-devised operating procedures that prescribed the behaviour of teacher and student in school (Saltman, 2016). Researchers of educational management inclined that, a bureaucratic institution like school operates in a complex environment whereby standardized rules and procedures are required to be formulated in order to shape organizational behaviour and direct member behaviour (Kilinç, Koşar, Er, & Öğdem, 2016; Smith & Larimer, 2004).

The relationship between bureaucracy and effectiveness have been examined in previous research studies, such as school performance (Smith & Larimer, 2004), teacher efficacy (Kilinç et al., 2016), job alienation (Alizadeh, Ali, & Hosseini, 2013) and student achievement (Bohte, 2001). These studies offered useful information on the associations between bureaucracy and school effectiveness showing unpredictability in the concept of school effectiveness results.

Even though, several questions relating to school choice has been raised by Bohte (2001), Krueathep (2011), Smith and Larimer (2004); there exist a wide-ranging opinion on the impact of bureaucracy on student and school performance. There are two convincing arguments on the study of bureaucracy in school. Advocates of school choice like John Chubb and Terry Moe (1994) claimed that, deficient performance in public schools is due to extensive bureaucracy which restrict teachers' choice to recommend and implement innovative ideas and solutions to school problems.

On the contrary, the opponents, Smith and Meier (1995) contended that, bureaucracy is a positive force required in managing and solving public school problems. It is essential to respond to multifaceted problems like administrative burden faced by schools especially the poor performing ones (Bohte, 2001; Krueathep, 2011), therefore, it should have a positive impact on student performance at secondary level where there are more administrative tasks for the school heads to do.

Though, in the past, the principal is the only one entrusted with the overall management of the school and he is being accountable to only the officials in the Ministry of Education for student learning outcomes and overall wellness of the school; he/she seeks improvement of the school system by creating an enabling working environment to motivate teachers and students, foster their relationships and promote team work (Lunenburg & Lunenburg, 2013; Zepeda, 2012). Without a specified structure, processes or policies, several activities performed by individual members of the school may hinder goal achievement (Lunenburg & Lunenburg,

2013). Therefore, school physical and human resources need to be properly harnessed and deployed to enable members of the school carryout several responsibilities.

Meanwhile, in a study of the effect of bureaucracy on the relationship between principals' leadership practices and teacher Commitment in Malaysia secondary schools using adapted Hall's Organizational Inventory (1968), perception of teachers revealed that, bureaucracy was being practiced in secondary schools, particularly on the component of impersonality when dealing with school staff and other outside members to be able to minimize conflicts or tension within their schools (Kean, et al., 2017). Similarly, Kalkan (2016) concluded that there is a relationship between learning environment and bureaucratic structure with a partial mediating effect of organizational trust.

In spite of the enormous responsibilities and functions of a school principal, research studies conducted in some developed nations like Australia, United States and United Kingdom unravels numerous challenges faced by principals in school management (Kitavi, 1997). Part of the problems experienced by the school head are related to instructional programme, student academic performance, teacher, financial resources and community participation (Goldring, Porter, Murphy, Stephen, & Cravens, 2006; Hale & Moorman, 2003).

Similar researches done in developing countries like Kenya and Nigeria revealed that principals' role as the school head is enormous and as a result, they are often confronted with challenges in terms of management of instructional programmes and

personnel within the environment for a positive transformation (Aja-Okorie, 2010; Evans, Bosire, & Ajowi, 2016).

However, in order to cope with these challenges, Gamage (1996) suggested the need to establish an effective communication network between the school – principal, teaching staff, non-teaching staff and students; the society – parents and members of the community; and governing bodies – government agency such as ministry of education; in order to create an improved administrative structure that will enhance a collaborative working arrangement with all the stakeholders. Additionally, supports received from government, community members, parents, school head, teachers and students can transform the climate of the school depending on the existing features which include school history, available resources and staff (Smith et al., 2014).

Consequently, school administrators and policy makers have identified a potentially important direction for raising student performance and management of schools towards school effectiveness and improvement (Jacob & Rockoff, 2011). This led many countries of the world to explore various initiatives such as School-Based Management (SBM), School Development Committee (SDC), Committee System (CS) on educational reform in order to reorganize decision making process and governing bodies in schools and also meet the educational demand of the society to be in parity with other countries of the world (Botha, 2010; Idris & Abdul Samad, 2008; Pushpanadham, 2006). SBM is a viable tool for promoting community participation, managing school policies and programmes and bringing school management closer to all and sundry.

Specifically, the Nigeria National Policy on Education section 12, sub-section 104b stated that, the government welcomes close participation and involvement of communities at the local level in the administration and management of schools (FGN, 2013). Meanwhile, school based management as part of the variant approaches was suggested by Blimpo, Evans, and Lahire (2011); Cheng and Chan (2000) as a sustainable tool in educational reform in many countries of the world particularly African as part of the programs to improve service delivery, promoting effective community participation in schools and reducing the adverse effects of over centralized control of governing agencies on schools. This however, may increase participation towards enhancement of member autonomy in creating advantageous conditions for improvement, innovation, accountability and continuous professional growth of teachers (Thida & Joy, 2012).

Encouraging good working environment, interpersonal relationship and pattern of experiences have been recognized by Duze and Ogbah (2013) to be predictors of school performance. More so, Caldwell (2008) declared that, the decentralized decision making to schools have connected with the immediate environment and society at large. Involving SBM committee in management of school promotes substantial value driven system, sustainable relationship between school and host community, and support towards ensuring quality and standard (Ayeni & Ibukun, 2013). Some literature acknowledged the existence of a relationship between SBM and school effectiveness as well as teacher commitment and student achievement (Camminatiello, Paletta, & Speziale, 2012; Nir, 2002).

Therefore, this study aims to investigate the mediating effect of school-based management on school climate, bureaucracy and effectiveness in Nigeria secondary schools. Nigeria is situated in West Africa which share borders with Republic of Niger on the North, Benin Republic on the west; Cameroon on the East and the Atlantic Ocean on the South (National Population Commission, 2009). The country has a population of over 180million; land mass of 923,768 kilometres comprising of 36 states with a federal capital territory (Abuja); and 774 Local Government Areas. The study would therefore be conducted in Kwara State due to its geographical positioning in the Country.

The rationale for selecting the State is due to the mixture of various ethnic groups and to be able to capture complexity and cultural diversity that exists among various states of the country in order to enrich the study. Kwara State which is among the 36 states of Nigeria situated in the middle belt which was carved out of the former northern region as a political entity in 1967 having the land mass of 36,825 sq. kilometres with a population of 2.3million having 3 state owned colleges of education, one federal, one state and two private owned universities as major teacher suppliers.

The State, being the only entry-way to both northern, western and southern regions of the country consists of diverse indigenous groups with different tribe and culture. The state has indigenous inhabitants who are Yorubas that migrated from the Southern part, Nupes and Barubas from the Central, Hausas and Fulanis from the Northern region; spread across the sixteen Local Government areas in the State with different

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languages and cultural and social values, and religion beliefs under the control of a Local Chairman.

Figure 1.1. Map of Nigeria

Source: Nigeria NPC, (2009)

In relation to this and to have a better understanding of conditions influencing effectiveness in Kwara State secondary schools, this study examined how the latent constructs of school climate, bureaucracy and school-based management predicts school effectiveness in Nigeria.

1.2   Statement of the Problem

Globally, there has been noteworthy progress in expanding the capacity of secondary education following the increased number of students flowing from primary to secondary level of education (Global Education Digest, 2011; Sahlberg, 2007). This is evident in the report of UNESCO (2011) where it was stated that within the period of 10 years (1999-2009), teachers deployed to secondary schools have significantly (30,430,000) increased as compared to that of primary school which accounted for (28,322,000). Meanwhile, in this report, Sub-Saharan African experienced an incessant growth from 79% to 157% between 1990 and 2009 whereby Nigeria accounts for the largest absolute increase (The Africa-America Institute, 2015; UNESCO, 2011). By implication, Nigeria secondary schools have become more complex in her responsibilities in sustaining quality educational system.

The pursuit for development of effective school operations is one of the foremost education reform initiatives taking place in many countries of the world today (Petty & Green, 2007). However, Grisay and Mahlck (1991) submitted that, the expansion of education system is invariably marked by concerns of decline in its quality due to unprecedented growth of education systems in practically developing countries. So far, Nigerian public secondary schools which are established and managed by government and predominantly occupied by citizens of lower socio-economic status in the society are facing problem of educational sub-standard (Inuwa, Yusof, 2012). This is posing unending challenges which affects human modification, cultural reproduction, innovations, social placement and the entire management of the school system (Nwagwu, 2008; Fafunwa, 2004).

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Although, schools are meant to be operated in a cultured environment where disciplinary ethics are built both within and outside the classroom; yet, the faults of failure in public secondary schools has been attributed to mismanagement (Inuwa & Yusof, 2012). Some researchers asserted that, underlying issues relating to instability in the management of schools are faced by many government owned schools in Nigeria (Ajegbelen, 2016; Ifedeli, 2015; Olaniyan & Obadara, 2008; Olawale, 2015; Ololube, 2013). These challenges have been identified by Olawale (2015) to seriously affect the school system and governance structure (Saleh, 2013). Consequently, it have often resulted to low operational quality (Abinboye, 2011), lack of productive teaching (Regina & Stella, 2010; Okopi, 2011) and continuous decline in productivity of many students in the West African Senior School Certificate Examination results in the last ten years (Adamolekun, 2013; Ademola-Olateju, 2014; Adesulu, 2014; Bene, 2016; Olanrewaju, 2016). Unarguably, this difficulty in managing school productive standard is posing serious threats to Nigeria secondary schools teachers towards delivery of quality education to students.

Nevertheless, prior studies have shown that school climate is one of tools used in improving academic outcome, increasing motivation and commitment among teacher and student (Gottfredson et al., 2005; Tagoe, 2014; Thapa et al., 2013); some essential aspect of school climate like ecology and milieu were neglected in previous researches as most studies focus mainly on social system and culture aspect of the school climate. Similarly, studies have shown that, bureaucracy is required to operate a systematic procedure and orderly arrangement that fosters interactions among school entities,

especially in the poor performing schools (Bohte, 2001; Thien, 2012; Punch, 1972). results from previous empirical investigations on bureaucracy and school outcomes were contradictory and as such, it is highly questionable that effect of bureaucracy on any school whether high or low performing is consistently good or bad under all conditions, hence bureaucracy may turn out to be positively or negatively related to school outcome depending on the factors.

Undoubtedly, more research is needed especially in the areas of effects of bureaucracy on school effectiveness. Attempting this would develop the understanding of and advance knowledge on effects of school-based management on school climate, bureaucracy and school outcomes. Studies have therefore suggested that, further investigations are necessary with multiple variables mediated and moderated linking them to examining factors responsible for different school outcomes (Ogaz, 2016; Punch, 1972; Thapa et al., 2013). In the light of these, it is imperative that more researches are required to address this problem and develop a model to address the gap in knowledge. Even though research had been done on the relationships among these variables, but significance of mediating the relationships between school climate and bureaucracy on effectiveness with school-based management has not been completely examined in Nigeria context by previous studies.

In as much as teaching and learning is concerned to measure school effectiveness, this research projects that, if the problem of school management, climate and bureaucracy remain unsolved by the government, the negative implication is on teaching and learning as well as academic performance of students. With the strong emphasis on

research and studies on the implication of school management, climate and bureaucracy on effectiveness, student achievement as well as teacher productivity could be potentially at stake in Nigeria, especially in Kwara State if these issues remain unaddressed.

1.4   Research Objectives

Research objectives clearly show in detail, the specific aim and exact issue of investigation in a study (Farrugia, Petrisor, Farrokhyar, & Bhandari, 2010; Thomas & Hodges, 2010).   Based on the overview of the discussion presented, this study examined whether school-based management mediates the relationship between school climate, bureaucracy and effectiveness in Nigeria secondary schools. Specifically, the objectives of this study are presented as follows:

i.   To examine teachers' perception towards school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools;

ii.   To examine whether the constructs of school climate, bureaucracy, school-based management and school effectiveness are valid, reliable; and meet SEM's model-fit indices minimum requirements.

iii.   To examine whether bureaucracy significantly influence school-based management in Nigeria secondary schools;

iv.   To examine whether school climate significantly influence school-based management in Nigeria secondary schools;

v.   To examine whether bureaucracy significantly influence school effectiveness in Nigeria secondary schools;

vi.   To examine whether school climate significantly influence school effectiveness in Nigeria secondary schools;

vii.   To examine whether school-based management significantly influence school effectiveness in Nigeria secondary schools;

viii.   To examine whether school-based management functions as a mediating factor in relationship between bureaucracy and school effectiveness in Nigeria secondary schools;

ix.   To examine whether school-based management functions as a mediating factor in relationship between school climate and school effectiveness in Nigeria secondary schools.

1.5   Research Questions

Research question in social sciences according to Labaree (2014); Punch and Oancea (2014); Sandberg and Alvesson (2011) are a set of clear enquiries which addresses the confusion or ambiguity; and give coherence, direction, focus and framework in a study. Therefore, this study attempts to give answers to the following questions raised to solve the identified research problem. Specifically, these questions were designed to give answers to questions raised on the effect of school climate, bureaucracy, and school-based management on school effectiveness as perceived by teachers. Therefore, the following questions were raised to guide this study;

i.   What are the teachers' perception on school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools?

ii.   Are the constructs of school climate, bureaucracy, school-based management and school effectiveness valid, reliable; and meet SEM's model-fit indices minimum requirements?

iii. Does bureaucracy significantly influence school-based management in Nigeria secondary schools?

iv.   Does school climate significantly influence school-based management in Nigeria secondary schools?

v.   Does bureaucracy significantly influence school effectiveness in Nigeria secondary schools?

vi.   Does school climate significantly influence school effectiveness in Nigeria secondary schools?

vii. Does school-based management significantly impact on school effectiveness in Nigeria secondary schools?

viii. Does school-based management functions as a mediating factor in relationship between bureaucracy and school effectiveness in Nigeria secondary schools?

ix.   Does school-based management do function as a mediating factor in relationship between school climate and school effectiveness in Nigeria secondary schools?

1.6   Research Hypotheses Development

Considerable literature connecting the factors surrounding effectiveness in schools are accessible. Theories recommended that several characteristics responsible for effectiveness varies across schools. For instance, collaborative style of administration,

supportive and productive environment and greater participation are positively related to principals' job performance and can in turn influence the achievement of educational goals (Okorji, Igbokwe, Ezeugbor, 2016).

School climate in form of ecology, milieu, social system and culture play a predominantly essential role, not only in the entire school experience but also in some other areas through keeping track of activities within the school to ensure its smooth operation. However, research findings of Dagnew (2014) reveal how climate influences entire school system and people within it, thus, a sustainable and encouraging climate nurtures and strives to improve student, provide supportive work environment for teachers and overall development necessary for productive, contributing to satisfactory school experiences.

Furthermore, there is an extensive wide-ranging argument on the impact of bureaucracy on academic achievement and school performance with studies supporting both claims. Since public schools are faced with more complex tasks, the system is more bureaucratic in nature. Empirical evidences ascending from study of Krueathep (2011) revealed that poorly performed school is overwhelmed with multifaceted issues in which bureaucracy is capable to handle.

On this note, both negative and positive consequences of school bureaucracy can be observed in different circumstances as it is essential to free teachers from administrative burdens to enable them to spend quality time in the classroom teaching.

Hence, this study developed the following hypotheses to answer the questions and further guide this research.
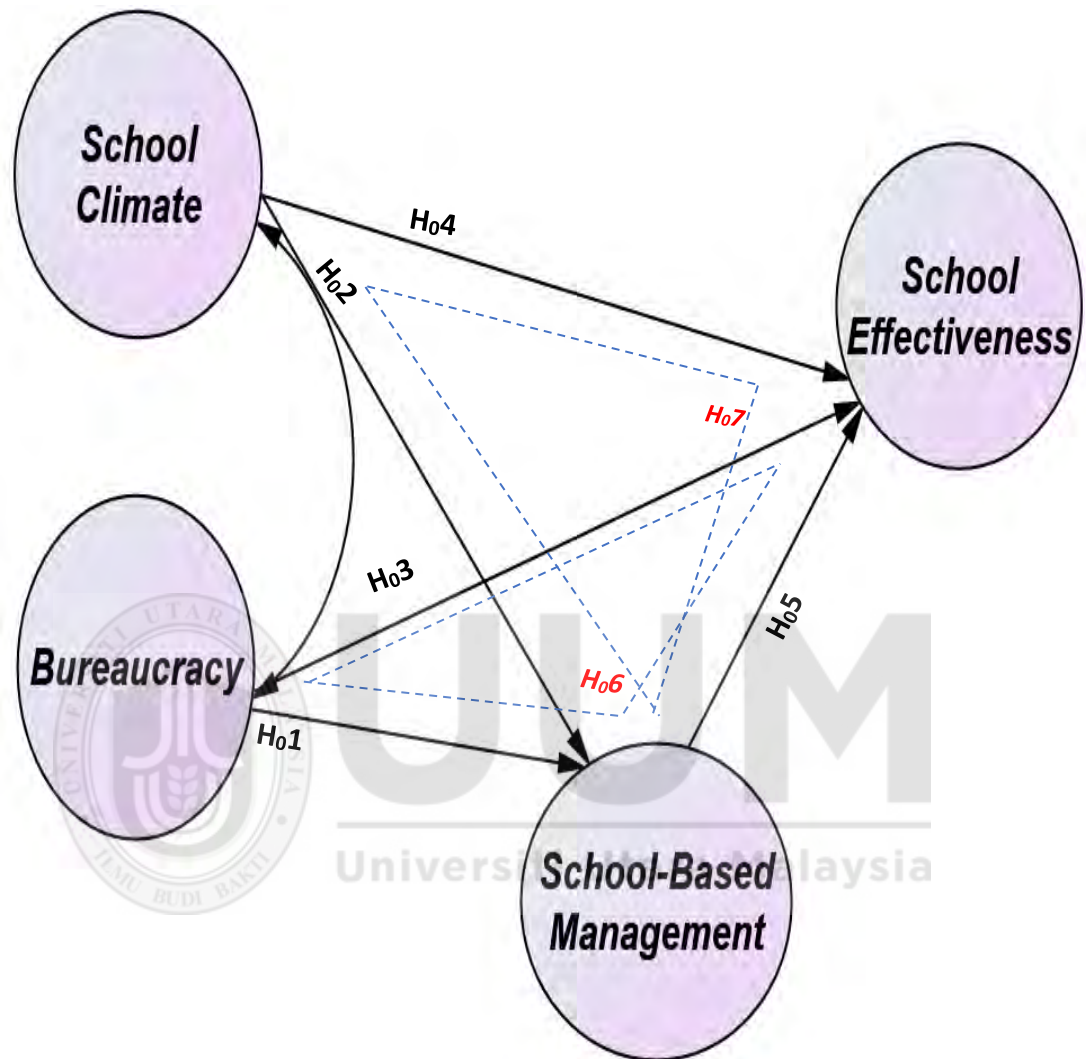
Figure 1.2. Hypothetical framework of school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools

Research studies is usually guided by some set of assumptions which can be accepted as truth. The above figure 1.2 shows the research hypotheses formulated for this study, hence, the underlisted hypotheses regarding the elements under investigation to guide the study:

H₀1:   There is no significant effect of bureaucracy on school-based management in Nigeria secondary schools.

H₀2:   There is no significant effect of school climate on school-based management in Nigeria secondary schools.

H₀3:   There is no significant effect of bureaucracy on school effectiveness in Nigeria secondary schools.

H₀4:   There is no significant effect of school climate on school effectiveness in Nigeria secondary schools.

H₀5:   There is no significant effect of school-based management on school effectiveness in Nigeria secondary schools.

H₀6:   There is no significant mediating effect of school-based management on the relationship between bureaucracy and school effectiveness in Nigeria secondary schools.

H₀7:   There is no significant mediating effect of school-based management on the relationship between school climate and school effectiveness in Nigeria secondary schools.

1.7   Significance of the Study

The aim of this study was to evaluate the effect of school climate and bureaucracy on school effectiveness with the mediating effect of school-based management. Therefore, its significance has been examined in terms of theory, practice and methodology.

1.7.1 Theoretical Contributions

This study provided an understanding of the effect of school climate and bureaucracy towards the effectiveness of the school system. The findings of this study are significant in many ways. Primarily, the findings of this study will have implications for theories in the field of educational management particularly in understanding of the organizational structure predominantly experienced in Nigeria secondary schools. It gives an insight to further our understanding and expand our knowledge of bureaucracy as a bright side in schools, hence, building on and extending the previous research findings in other contexts. Therefore, the findings of this current as well as its implication will contribute to debate concerning bureaucracy as dark and bright side.

The findings of this study have validated the need for bureaucracy in public secondary schools and equally reveal the underlying activities in the school which can help evaluate the strategies to be used for positive outcome. It has further proven that, even though climate is important, the composition and structure of schools differs in Nigeria context. Although there has been a disparity in the outcome of previous researches conducted in this area, none of the studies have been able to link the variables under study together, especially in the Nigeria context.

This study also fills a gap in the empirical studies, since most related studies in this area focus mainly in developed countries, excluding Sub-Saharan Africa, where Nigeria is situated. This study therefore, filled the literature gaps in Nigeria context and likewise beneficial to other researchers in the field of educational management as

literature guide for further or future research studies. On the final note, the results of this study will establish directions for future researchers to further their studies in this area.

1.7.2 Practical Contributions

In recent time, there has been a paucity of empirical studies of this kind particularly on bureaucracy in Nigerian secondary schools. It is therefore thoughtful that, the findings of this study as well as its implication will be beneficial and be of great importance to the entire secondary schools in Nigeria particularly Kwara State; the educational practitioners, parents, teachers, students and the community. This study would give a clearer view to educational administrators on better ways of coordinating the secondary school system to enhance efficiency and effectiveness, that is, it would contribute significantly to the smooth operation of secondary schools in Kwara State, Nigeria.

Also, the findings of this study would serve as a guide to provide information to parents, teachers and the entire community on the factors that may enhance the effectiveness of the school and also sensitize the school head on how best to manage and administer the school system. It will further expose the school teachers to ways in which their work could enhance positive school outcome.

Additionally, this work will be beneficial to the host community where schools are sited. It would give members of the society especially parents a sense of belongingness and make the, more responsive to the pressing demand of the schools in their

immediate environment and that of their wards. Equally important, this study would serve as a platform to reinforce government efforts towards school effectiveness. It would be a means through which government can get feedback on the level of policy implementation in secondary schools. On the final note, the findings of this research could be generalized to all schools in Kwara State since the research will cut across all the senatorial district. The recommendation of this study would therefore assist the government of Kwara State on possible ways of attaining desirable outcome in the public secondary schools.

1.7.3 Methodological Contributions

This study was noteworthy as it considered the perception of teachers towards their immediate environment where they work. It examined the mediating effect of school-based management on school climate, bureaucracy and effectiveness in Nigeria secondary schools. This study presented numerous factors appropriate to assess the variables in the context area and provided measures for each of the constructs.

It assessed bureaucratic system in the school viz-a-viz division of labour, hierarchical-rules, impersonality and competence as constructs for the endogenous variable. Also, the effectiveness of secondary schools was surveyed through teacher adaptation, productivity, cohesiveness and commitment which is different from most previous researches conducted. Also, the study adopts and integrates four different instruments which were typically used in other context predominantly in the developed countries. Most of these instruments were developed and tested internationally and were yet to

be validated for Nigerian context, hence, this study validated these instruments before they were applied to suit the need of the Nigerian teachers in secondary schools.

Additionally, this research study uses Structural Equation Modelling (SEM) which has been adjudged as a valid and more reliable method for modelling with the integration of several theories and model (Taguiri, 1968; Weber, 1947; Gamage, 1996; Parson, 1961) to examine the effect of school climate, bureaucracy and effectiveness with the analysis of school-based management as the mediating factor. Subsequently, SEM was used to simultaneously estimate the interrelationships between the determining variables (school climate and bureaucracy), its latent constructs and the predicting variable (school effectiveness).

On the final note, this study developed a model and employed a confirmatory approach to test theories and to investigate the links between school climate, bureaucracy, effectiveness with the mediation of school-based management in Nigeria secondary schools, through the non-cognitive outcome using Structural Equation Modelling (AMOS).

1.8 Conceptual Framework

Figure 1.3 shows the school climate, school bureaucracy, school-based management and school effectiveness are the variables that will be reviewed in this study. The school climate and school bureaucracy will constitute the independent/exogenous variable for the study while the school effectiveness will be considered as the dependent/endogenous variable. The study intends to find out the interactions that

exist among the two determinants (school climate and bureaucracy), and also to examine the effects of the three variables under study on the predictor (school effectiveness) through the mediation of school-based management as shown below in Figure 1.3.
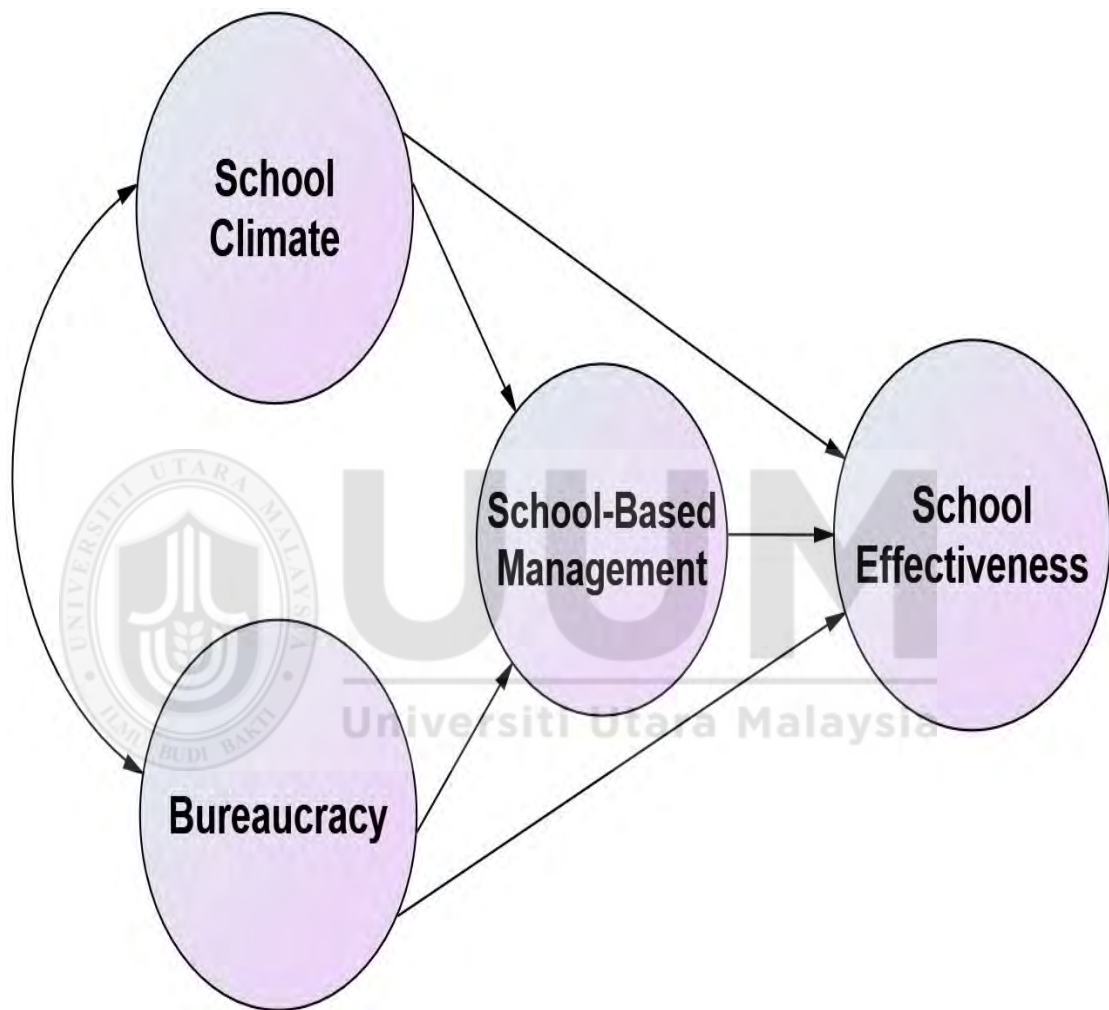
Figure 1.3. Conceptual Framework for school-based management on school climate, bureaucracy and school effectiveness in Nigeria secondary schools.

Even though, significant research has been carried out in the area of climate, most research studies concern on a few dimensions (Anderson & Walberg, 1978; Halphin & Croft, 1963; Sinclair, 1970; Mitchell, 1968) and neglect the capture of others

(Tanguiri, 1968). Likewise, Hoy & Sweetland, (2001) gives two illustrations conflicting to bureaucracy as the dark and bright sides. They reveal that the first aspect hinders creativity, brings dissatisfaction and demoralizes workers while the other displays a bureaucratic structure that clarifies responsibilities and gives employee guide which enables them to be more effective.

Therefore, this study illustrates the theory of school climate through the concept of Taguiri's 1968 taxonomy using the Saskatchewan school climate scale developed by Ruane (1995) to measure school climate. Bureaucracy will be examined through the composition identified by Weber (1947) as measured by School Organization Inventory developed by Mackay and Robinson (1966) to study bureaucracy in school. Similarly, school-based management will be examined through the approach of Gamage (1996) using the instrument of Bandur (2008). The concept of school effectiveness comprises of all the dimensions stated by Parson (1961) using the School Effectiveness Index developed by Mott as used by Hoy and Ferguson (1985) with some slight modification that may be made by the researcher.

1.9   Theoretical Framework

The importance of theory in research cannot be overemphasized, this is due to the essential roles it plays in development and provisions of clearer analytical framework necessary in the practical world (Udo-akang, 2012). According to Wacker (1998), pronouncing a theory for study will serve as precaution against irrational approaches to issues. It is an organized set of interconnected ideas which emerges from a process; intended at giving explicit guidelines, predictions or explanations to a usual action or an actual phenomenon (Klett, 2011).

Theories according to McKinley (2010); Gay and Weaver (2011); Hoy and Miskel (2012) is a specified language with set of interrelated notions and assumptions which provide general explanations in understanding some aspect of a phenomenon in educational organizations. Therefore, the theory as used in this study provided a structured background through which all issues were observed and examined. This study on mediating effect of school-based management on school climate, bureaucracy and effectiveness draws primarily on the general system theory. The general system conception has been a comprehensive viewpoint to explain the working of schools.

The system perspective which is one of the oldest, most realistic and dominant theoretical basis in social sciences such as education provides the best theoretical basis for the study of human interaction within the environment (Bozkuş, 2014). However, the underpinning theories of Weber (1947), Taguiri (1968), Gamage (1996), and Parson (1967) were all integrated to thoroughly study the effect of bureaucracy, climate, school-based management on school effectiveness. The collection of these theories adopted guided the research variables and enabled the researcher tested the hypotheses in this study.

1.9.1   Bureaucratic Theory

Bureaucracy is an administrative structure of an organization. An organization is a social setting that has people at the top level where decisions are made and followed a chain of command to the lower level where regulations are enforced, and specific

functions are carried out. Even though, the concept of bureaucracy has been in existence since the beginning of civilization, the theory was invented by Monsieur de Gourmay in 1845 and later developed by Max Weber, a German sociologist and philosopher between 1864-1920 who was cited as the founder of the study of bureaucracy (Ihejiamaizu, 1996).

Weber made a comparative study on various organization existing and evolve the concept of bureaucracy as an ideal form of organizational structure. He developed the principles of formal system of administration in order to ensure efficiency and effectiveness in an organization; and enumerated contemporary analysis of bureaucracy in an idealized model characterized by division of labour, hierarchical-rules, impersonality and competences. These features were structured in schools and described further by Koybasi, Ugurlu and Bakir (2017) as the establishment of division of labour based on competence in the distribution of official responsibilities; delegation of responsibilities to teachers towards school administrators with binding laws and regulations; demonstration of impartiality and coherence by school staff; and demonstration of professional or occupational competence based on expertise or technical know-how.

However, this conception of bureaucracy fascinated many theorists to investigate its relevance in contemporary organizational studies. Education, government, science, military, business sectors and religious groups all operate in a state of complexity and depend on a large workforce arranged in hierarchical order with specialised tasks which is based on operational procedures in which bureaucracy is suitable of handling

(Daniel & Arthur, 2009). It is therefore a scheme of administration which is intended to accomplish task through systematic coordination of individual members of an organization. Although some scholars like Bauman (1988) and Miller (1967) has criticized existence of bureaucracy in organizations, some have also fortified its significance in regulating contemporary organizations (Du Gay, 2000; Olsen, 2005).

Schools where most teacher and student spend most of their time is also a form of bureaucracy which functions to guard its own structure (Y cel, 1999). On this basis, it is sensible to access Weber's concepts of bureaucracy in education research to be able to investigate whether bureaucracy hinders the operation of secondary schools in Nigeria and provides an understanding into the conflicting positive and negative impact of bureaucracy in the context of education. Hence, this study examined the bureaucratic structure of the secondary schools based on the features identified by Weber (1947).

1.9.2   Taguiri Taxonomy

The appropriateness of adapting theory from systems perspective was based on the acceptance that schools are unique social organisms whose comportment must be better understood (Thomas, 1976). Philosophers understood the usefulness of studying climate in relation to employee productivity, thus delineating organizational climate necessitates a more detailed and precise specification of the theory. This has been established with the taxonomy of climate-related terms developed by Tagiuri (1968) which provides an effective sort system for categorizing the school climate

literature. This classification has become dominant view in organizational climate research as many studies reflects on it.

In Taguiri's assessment of school climate, the environment is measured by how members of an organization perceived certain qualities to which they are sensitive to and which, in turn, influences their attitudes and enthusiasm. That is, summary of thoughts associated with the total environmental quality within an organization. Accordingly, four elements were enumerated to constitute climate, as much as a particular conformation of personal characteristics constitute a personality. This include ecology (Physical/material variables in the school that are external), its milieu (the variables that represents individual characteristics concerned with the presence of persons and groups), its social system (the social dimension concerned with the patterned relationships of persons and groups), and its culture (the social dimension concerned with belief systems, values, cognitive structures, and meaning). Nevertheless, none of the studies of school climate have given due consideration to all the elements classified by Taguiri (Anderson, 1982); thus, this study used Taguiri's taxonomy to guide this study.

1.9.3   School Based Management Theory

A reviewed theory of School Based Management devised seven assumptions premised on Gamage 1996's twenty years of experience in Australian SBM systems which are more realistic application. First of this assumption specified that, a council in a school should consist of all stakeholders which include the school head; teaching and non-teaching staff representatives, parents and students in case of secondary schools who

are to be elected, and a representative of the local community, who is to be nominated by the school head and other elected members.

Secondly, the delegation of authority and transfer of responsibility should be depicted by legislative enactment towards transforming an advisory body into a democratic governing form. Thirdly, there should be a voluntary participation of community members, parents as well as students' representatives in policy formulation and implementation, school governance, management and administration for motivation and active involvement of all stakeholders towards improving the quality of education.

The forth assumption is that all members shall be inducted with appropriate training and sufficient knowledge required to function as equal partners, even though members are from different fields and background other than education, their experiences and relevant information will be useful in meeting the needs of a contemporary school. The fifth assumptions require schools to improve their image through an increased enrolment of students. The sixth theory postulated that SBM is cost effective because the higher level of commitment results to reduction of costs and greater limited resources utilization.

Besides, reducing the size of the educational administration increases the amount of resources available for educational purposes, at the same time encouraging schools to draw on previously untapped community resources. Finally, the seventh assumption is the need to uphold a stringent control of finances placed at the disposal of the schools as a way of ensuring accountability and conformity with the guiding principle of the

ministry/department which are related to the operation of the committee. Thus, from above discussion, this study used Gamage 1996's theory to guide this study.

1.9.4 Parson's Organizational Effectiveness

As the above mentioned on theories related school climate, bureaucracy and school-based management, Talcott Parson's (1961) structural functionalism theory is a relevant model to study on school effectiveness; this is suitable due to its evaluation using indicator that reviewed internal aspect of the school organization. The theory focuses on public institutions that constitutes a society. Structural functionalism states that school is a function of the social environment which comprises of different groups of organized people (involves interaction and relationships among the principal, teachers, students and other stakeholders) that share common norms with a definite culture, working together towards smooth operation of the system (Friedman & Allen, 2011).

Although, organizational effectiveness is known for its broader view especially in terms of theoretical base, the dimensions of school climate and bureaucracy as used in this study bear a relationship with Parsonian framework of social system. The perspectives provide a theoretical background which evolved directly from the dynamic functions of the social system. Four functional approaches were used in the study of organizational effectiveness by Parson, they include: level of school teacher and student goal attainment in terms of productivity; the extent to which teachers and principals adapt to change and their degree of tolerance of innovation; teachers'

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cooperation and collaboration with one another; and their level of commitment to the school (Hoy & Ferguson, 1985).

According to Parson (1961), he postulates that for social system like school to subsist and make progress, it must find solutions to four problems (i) adaptability, (ii) productivity, (iii) cohesiveness, and (iv) commitment. This therefore guides the framework on which this study was based.

1.10   Scope and Limitation of the Study

This study focuses on the mediating effect of school-based management on school climate, bureaucracy and effectiveness focused on the upper secondary school levels in Kwara State. The teaching staff were the targeted respondents for this study on which the findings of this study would be generalized. Also, this study focused on four variables: school-based management, school climate, bureaucracy, and effectiveness. The research design was survey of the cross-sectional type. The school effectiveness (endogenous variable) in this study was measured through teachers' adaptation, productivity, cohesiveness and commitment to school. Items for the measure of the constructs were adapted from Hoy and Ferguson (1985). Analysis was done using Statistical Package for Social Sciences and Structural Equation Modelling (AMOS Graphic) Version 23.0.

However, some key issues are considered as limitations in this study. This research is limited to the conceptualization as proposed in the theoretical framework which is relevant to the studied phenomenon and its context; thus, it is restricted to the variables

that have been developed for this study. The theoretical framework for this study examines bureaucracy with the components of division of labour, hierarchical rules, impersonality, and competence; and school climate variable and its components of ecology, milieu, social system and culture. Also, this research study does not involve principals, head teachers, or teachers from basic and private schools, limiting the participants to only teachers from public secondary schools in the State. Besides that, this study focuses on a single State due to limited time frame and inadequate access to resources.

Finally, this study is subjected to limitations associated with reactive research. It is important to state that; even though information supplied by participants are assumed to be an honest and true representation of their perceptions, it is however not the case at all time as respondents may sometime withheld information, underrepresent or overrepresent their knowledge by manufacturing responses.

1.11 Operational Definition of Terms

The following key terms were used in the course of this study and has been defined operationally in this section.

1.11.1 School Effectiveness

In this study, effectiveness refers to the operations and performance of the school that is related to efficiency and effectiveness of the system (Amah et al., 2013; White, 1997). These include adaptation - degree of flexibility and tolerance to innovations in schools; productivity - level of services rendered by teachers in school like teaching

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and counselling; cohesiveness - cooperation and collaboration among principal, teachers and students; and finally, teacher commitment to school (Hoy & Ferguson, 1985; Parson, 2013).

1.11.2 School Climate

As described by Thapa et al. (2012) and used in this study, school climate refers to total environmental condition of the school as perceived by the teachers. It involves the physical safety of members of the school, their interpersonal relationship, school-community relationship and orderliness in the structures of the environment. For the purpose of this study, the ecology, milieu, social system and culture will be examined.

This has been grouped in this study into: non-human aspect of the school which are of importance to teachers or students (physical environment, facilities, material and equipment); the important characteristics of members of the school (school experience); relationship existing between and among members of the school (teacher-teacher, teacher-students, principal-teacher); and the beliefs and values that is acceptable in the school.

1.11.3 School Bureaucracy

Bureaucracy in this study are set of regulatory measures required and drawn by management for control of the activities which are represented by a standardized procedure that prescribes the execution of all processes within the school (Tierean & Bratucu, 2009; Weber, 1947) . This refers to the structure of the school system put in place to avoid variation in the method of coordination and control for strict conformity, equal participation and orderliness in the school. Hence; division of labour,

hierarchical-rules, impersonality and competences will be the focus of this present study.

1.11.4 School Based Management

As described by Ayeni and Ibukun (2013), it is the delegation of power among stakeholders to be able to perform tasks and likewise review policy to achieve exacting standards and quality school outcomes. It is a reform in the school management which provides platforms for principal, teachers, students, parents, members of community which the school served and governing bodies to work together in enriching the governance and promoting an improved management of schools towards efficient and effective education service delivery and school development. Therefore, this study used Ayeni and Ibukun (2013) in referring to the school based-management definition.

1.11.5 Secondary Schools

Secondary schools in this study refer to definition by UNESCO, (2011) that only government owned upper level secondary schools that are ten years old and beyond apart from technical and government colleges. It is the school attended by students aged 14-18years at the completion of the nine years of Basic Education Programme (UNESCO, 2011).

1.12 Summary of Chapter One

This chapter discussed introductory part of this research, with emphasis on the background to the study and the research problem. It captured the general importance of secondary education to the society, particularly to the national development. However, teachers' role in ensuring educational goals are attained have also been

discussed in this chapter and the important part a school head plays in ensuring that sustainable improvement is attained in school system are also equally discussed.

The current roles of government across the globe in ensuring quality and effectiveness in the education system were narrated and this has been narrowed down to the Nigeria education system. Importantly, the situation of education system in Nigeria has been discussed and this led to the research issues and problem of the study. An elaborate theory of the problem has been addressed in terms of theory and practice.

The study raised research objectives which emanated from the problems and led to overarching questions and formulation of hypotheses leading to the theoretical model that guided this study. The significance of this study was discussed in terms of practical, theoretical and methodological contributions. Various constructs for measure of variables under study were briefly outlined with their limitations. Various terms used in the study were operationally defined as it was used in this study. The next chapter therefore, reviewed existing literature about school effectiveness, school climate, bureaucracy and school-based management leading to a thoughtful clarification and justifications.

1.13   Organization of the Thesis

This thesis was sorted and divided into five chapters:

Chapter One: The first part is the chapter one which provides introduction of the study background. It presents the research problem and outline the objectives, questions and hypotheses for the study. The significance was discussed in relation to

theory, practice and methodology. The underpinning theories, limitations and summary of chapter one was also presented, while all terms used in the study were operationally defined for better understanding. Finally, the organization of the thesis is presented in the last section of this chapter.

Chapter Two: This chapter presents review of literature on school climate, bureaucracy, school-based management and school effectiveness. It provides a comprehensive approach to school effectiveness. Specifically, it outlined key components and of all construct and addresses all constructs with their theorized factors and further relates each determinant variable to the predictive variable of school effectiveness.

Chapter Three: This section explains the different steps which make up the method. It presents the methodology of the study with focus on the research design, population, method employed in the selection of sample size, instrument adopted, procedure for data collection, as well as data analysis and statistical tools.

Chapter Four: This chapter was grouped into three sections to presents analysis of data collected for the purpose of this study. The descriptive analysis was presented with the demographic characteristics of respondents. Principal Component Analysis was conducted to identify if the factors are true measure of constructs. The second stage was on inferential statistics using SEM. It tested the fitness of the model using Confirmatory Factor Analysis (CFA) and the final path analysis was implemented using SEM.

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

The earlier chapter provided an overview of the study. It introduced the research background and linked to the research problem. It examined the related theories adopted in the research. This chapter therefore offered a review of related theory and literature on school climate, bureaucracy, school-based management and school effectiveness in secondary schools.

Literature review has five main goals; firstly, it demonstrates familiarity with body of knowledge; secondly, it reviews prior studies to be able to establish the importance of the research; thirdly, it constructs a theoretical framework as a guide for the study; fourthly, it identifies the key issues related to the research and lastly, it identifies gaps in the existing literature. The purpose of literature review as related to these variables therefore is to enhance understanding of concepts relating to this study.

This study reviewed the school climate, bureaucracy, school-based management and effectiveness in Nigeria secondary schools by examining various dimensions of construct, its measure and how its relationship towards overall effectiveness. It addresses the concept and dimensions of all variables to figure out the conceptual meaning associated. The assessment was organized under the following sub-headings: systems theory, concept of variables of school effectiveness, approaches to school effectiveness and its dimensions, school climate dimensions and school effectiveness,

bureaucracy dimensions and school effectiveness, and school-based management and school effectiveness.

2.2   Systems Theory

Systems theory, which emanated from the general systems theory can be attributed to the biologist, Ludwig Von Bertalanfty in 1928 who recognizes the need for a unified inquiry to understand and deal with increasing complexities across different fields. The system theory in the context of education will be unarguably attributed to Talcott Parsons (1951) who sees organization as consisting of individual actors full of shared symbols interacting in a culturally structured system regardless of the size and complexity, to achieve specified goals. Gupta and Gupta (2013) emphasized that systems approach allows individuals to observe all aspects of an organization, to inter relate the effects of one set of decisions to another and to optimally utilize all available resources to solve problems. So, it could be said that, systems approach allows school management to make possible decisions through analysis of teaching-learning circumstances, and to assess if these factors are associated or in support of the other in relation to components of the entire system.

This perspective according to Bozkuş (2014) citing Getzels, Limpham and Campbell (1968) is basically premise on three features: the interdependence of the parts, the organization into some sort of whole and essentially, existence of both individuals and institutions. Based on this, Black (2008) described an organization as a complete system having subsystems with clearly oriented activities towards goal attainment; through which activities of one unit can be integrated into several others.

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Meanwhile, the environment encompasses several institutions which constantly interact and are often interdependent. In relating system theory to education therefore, one can have thought of secondary school as a social system comprising of sub-units (individual, departments, functions and occupational groups) which are interrelated, systematized and administered to achieve school goals (Oluremi, 2013). This is in line with the submission of Ayeni (2012); Thien and Abd Razak (2012) who posited that the school is an open system that evolves and operates a network of inter-relationships among individuals and activities within it; and with the external environment, particularly the stakeholders who formulate policy on school administration and curriculum implementation. In summary, it could be concluded that, the survival of a school solely lies on the dynamic interactions among school entities which is a fundamental organizational process required in meeting progressive needs of the institution.

Educational institutions are complete system on its own, which involves a constant process of interaction with other subsystems based on internal and external variations. This was characterized by Thien (2012) as a system which operate a systematic procedure and orderly arrangement of social interactions among school entities (see figure 2.1 for educational subsystems). From the figure, it could be said that, system is made up of sub-systems, part of which cannot be separated from the other; thus, making the system a complete whole. In a practical sense and within the context of school settings, it could be viewed that individual interactions are patterned,

interdependent and complementary in the predictions of efficiency and effectiveness of the system.
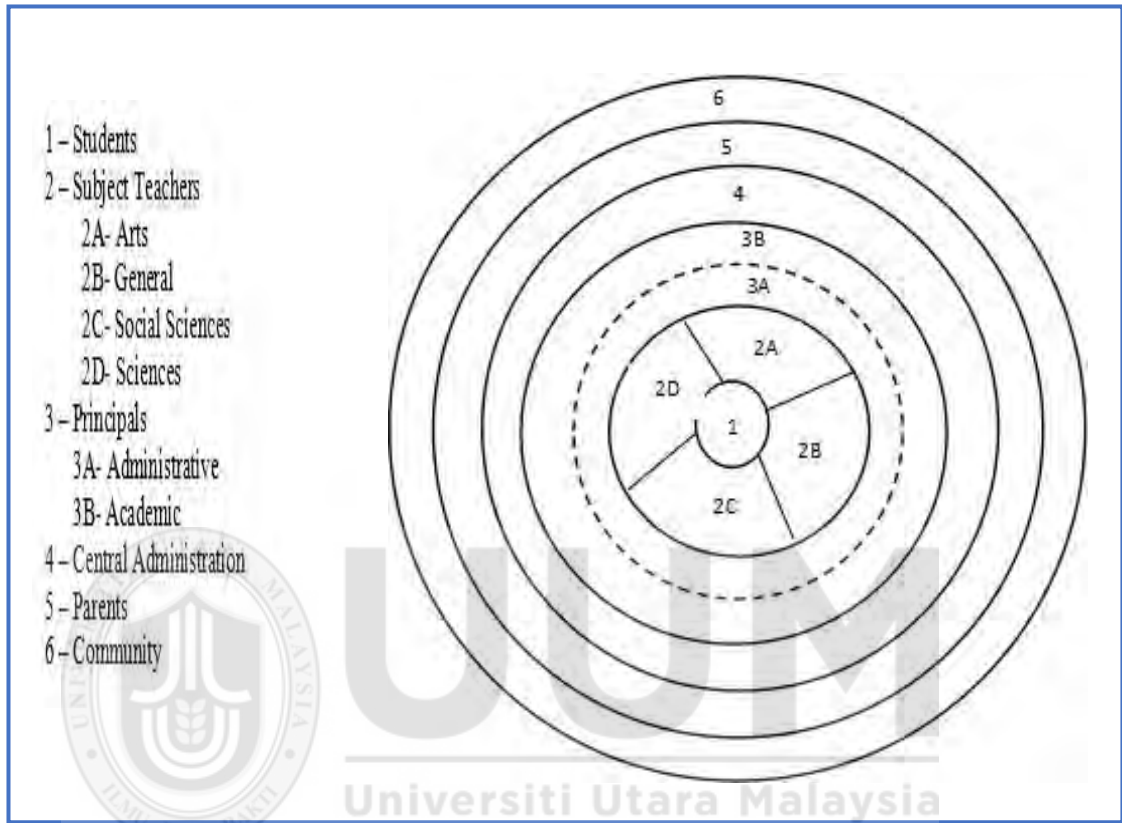
Figure 2.1. Educational Subsystems, Hanson (1973)

However, it could be concluded from the foregoing that; the system theory serves as a guide to study the operation of schools as it interacts with both the internal and external factors. The researcher's choice of selecting systems theory is in line with Dale (1984) submission that an organization should be studied as a complete system whereby the environment, total systems, formal arrangement and technical systems are constantly interacting. The theory according to Thien and Abd Razak (2012) delineated recurrent social interaction of individual members within the school and

communities, and coordinated efforts through interaction with internal and external environment which are all directed towards goal attainment.

This is suitable due to its evaluation using indicator that reviewed internal aspect of the school organization. The theory states that school is a function of the social environment which comprises of different groups of organized people that share common norms with a definite culture, working together towards smooth operation of the system (Friedman & Allen, 2011). These involves coordination, interaction and relationships among the principal, teachers, students and other stakeholders. To be able to provide an outline for proper investigation of the problem, the variables in this study will be examined. Therefore, this study will examine the mediating effect of climate on school-based management, bureaucracy and effectiveness in secondary schools that are established, owned and controlled by Nigerian government.

2.3 School Effectiveness

Ascertaining organizational effectiveness varies due to emphasis placed on antecedent conditions of educational output. Controversies on effectiveness revolves on what criteria to be used in the assessment and the possible factors that can influence effectiveness (Cameron, 1984; Reimann, 1975; Scheerens, 2000). Based on this, it is necessary to specify a core set of criteria suitable for assessment among all element of effectiveness (Hoy & Ferguson, 1985). A comprehensive approach to the analysis of school effectiveness began in 1966 with the report of Coleman et al. (1966) whereby family background was found to predict failure or success of students. Analysis was proposed in an attempt to manipulate human and material resources and ascertain the

extent to which these resources justifies its objectives without placing unwarranted stresses upon members of the school.

Although, organizational effectiveness is known for its broader view especially in terms of theoretical base, the dimensions of effectiveness as used in this study bear a relationship with Parson's classification of social system. The perspectives provide a background which evolved directly from the dynamic functions of the social system. Four functional approaches were used in the study of organizational effectiveness by Parson, they include: level of school teacher and student goal attainment in terms of productivity; the extent to which teachers and principals adapt to change and their degree of tolerance of innovation; teachers' cooperation and collaboration with one another; and their level of commitment to the school. According to Parson (1967), he postulates that for social system like school to subsist and make progress, it must find solutions to four problems (i) adaptability, (ii) productivity, (iii) cohesiveness, and (iv) commitment. That is, the framework recognises the broad range of organizational outcomes through the assessment of the extent to which production, integration, cooperation and collaboration contributes to the satisfaction of both individual needs and organizational outcomes.

There is no ultimate criterion construct for assessing effectiveness (Cameron, 1984). This is because, it is a broad and difficult concept to measure in any organization (Daft, 2007; Malik et al., 2011; Moon-Gi, 2004). Over the last 50 years, several research works have been carried out globally on "effectiveness" of organizations which makes it one of the most widely researched topics (Aggarwal-Gupta &

Neharika, 2010; Ashraf & Abd Kadir, 2012; Cameron, 1978, 1984; Cameron & Whetten, 1996; Gallagher & Griffore, 2013; Ghani, Siraj, Radzi, & Elham, 2011; John Gray, 2004; Hofman et al., 2015; Moon-Gi, 2004; Peter & Skitmore, 1996; Ranson, Farrell, Peim, & Smith, 2005; Reynolds et al., 2014; Sammons, 2010; Sun, Creemers, & De Jong, 2007; Uline, Miller, Tscannen-Moran, & Tschannen-Moran, 1998; Ronald, 2000); yet misperception continues regarding what organizational effectiveness is (Jamrog & Overholt, 2004). Interest in the concept of organizational effectiveness increased between 1960 and 1970 after it was neglected due to lack of theoretical justification in examining the level of analysis (Peter & Skitmore, 1996). By and large, it could be said that, the meaning of effectiveness is usually unclear and sometimes lead to uncertainties in interpretation of research outcomes; hence, the concept has been assessed in a wide variety of perspectives which makes it challenging to compare studies.

Although, Jacob and Shari (2015) stated that, several studies have attempted to conceptualize organizational effectiveness with multifaceted complex criteria and different approaches in examining the construct of organizational effectiveness, yet, Cameron and Whetten (1996) maintained that criteria problems are the major obstacles to the empirical assessment of organizational effectiveness. Thus, it could be inferred from their submission that, the circumstances which various organizations operates in terms of structures, interrelationships, sizes, particularly the social functions differ; making the constructs organizational effectiveness multifaceted.

In the past, Daft (2007) identified two major contemporary and traditional approaches which can be used to measure the effectiveness of an organization. However, these approaches include the goal approach, system resource approach and internal process approach which are likely used in measuring progress of the organization towards attainment of expected goal. Although, Kennedy, Ahn, and Choi (2008); Botha (2010) submitted that in recent time, research on the variables that predict school effectiveness has been on the increase especially on how teachers will succeed in giving a high-quality education to students, in spite of its wide spread, the conceptualization of effectiveness in school has become a major concern in current debates on educational reform with no clearer or consistently accepted guidelines for assessment.

However, Redshaw (2000) in his study specified the assessment of organizational effectiveness into four categories which include: (a) focus on goal achievement to determine the extent to which organizational targets are accomplished; (b) emphasis on the activities designed to make the organization more effective and successful; (c) the extent to which the expectation of the external stakeholders whose support are essential to the success of the organization are met; and (d) effective internal process where everything run smoothly. Therefore, effectiveness in an organization can be proven when everything runs smoothly with little or low internal strain and tasks are successfully accomplished through core strategies.

Practically, most studies of education research are concerned with conditions under which schools are effective; hence, the basis for growing field of comparative

organizational study which enables them to make some reference to effectiveness (Scheerens, 2013b). Considering the complexity of the term 'effectiveness' as a controversial global phenomenon, Thompson, (1967) maintained that, criteria to be carefully chosen for evaluation of effectiveness should depend on the nature of the responsibilities and tasks that are unique to a particular organization in order not to pursue numerous and conflicting goals. It is therefore not possible to compare studies of effectiveness since there is no ultimate and common criterion provided (Cameron, 1984). In line with the above statement, Teddlie and Reynolds (2001) submitted that there is no single criteria, complete theoretical explanation and satisfactory answer to the question of what makes a school effective than the other considering the numerous factors associated with the school system.

Based on the literature, there are multidimensional view of school effectiveness which revolves round the goal approach, the system resource approach, the internal process approach and the strategic constituency approach. Therefore, no single model is fit to measure school effectiveness (Ashraf & Abd Kadir, 2012). Similarly, there are several other models of effectiveness which include: Human relation model, competing values model, contradictions model, constituency model, natural system model, domain model, some of which will be discuss briefly in this study.

2.3.1 Goal Approach to School Effectiveness

Advocacy for goal accomplishment as one of the major criterion characteristics of school performance turned out to be most widely used in evaluating school effectiveness and seen as the basic requirement to fulfil and accomplish school goals

(Cheng, 1996). Schools are established with clearly defined goals which are adjudged to be well understood; it is pronounced to be effective if the outcome of activities meet or exceed the stated goals (Teddlie & Reynolds, 2001). According to Daft (2007), effectiveness can be measured in terms of level of goal accomplishment, that is why it has been adopted in business organization to measure the extent to which the desired level of output is achieved.

For instance, the goal of secondary education as stated by the FGN (2013) is to prepare secondary school students for a useful living and higher education; offer diversified curriculum that caters for the difference in talents, opportunities and future roles; inspire students with a desire for self-improvement and achievement of excellence among others. Unfortunately, these goals are official and may differ from the actual tasks and activities that reflect the true intentions of the school system.

Meanwhile, official goals according to Teddlie and Reynolds (2001) may be functional or non-functional depending on the extent to which educational practices are accurately represented. However, goal model is useful if the commonly acceptable criteria available to clearly measure school outcomes are listed in school plans and programmes particularly those related to quality of learning and teaching and academic achievements (Cheng, 1996). Even though, goal approach has been criticized on various grounds to be static and retrospective by Cameron (1978), it remains the most widely used measure of organizational effectiveness (Yutchman & Seashore, 1967). That is why a system resource model was proposed as an alternative approach to school effectiveness.

2.3.2   System Resource Approach to School Effectiveness

The system resource model propounded by Yutchman and Seashore (1967) was described as organization's ability to exploit its environment in the acquisition of valued resources input needed for schools to be more effective. This approach emphasizes on the connections of the school with the environment and sees it as the ability to exploit the environment towards acquiring valued resources in replacement for goal attainment as a criterion for effectiveness (Yutchman & Seashore, 1967).

The system resource model has clearly connected the school internal processes with performance output and it is considered to increase school effectiveness if teachers work harmoniously and are able to exploit both internal and external environment (Cameron & Whetten, 1996). Thus, the consistency of the school internal processes and structures as well as the ability to adapt to environmental constraints are the most important criteria for assessing school effectiveness.

It was stated by Eydi (2015) that, the focus of school effectiveness is in its ability to interact, relate and maintain harmonious relationship with the environment in order to attract viable resources required for the smooth running of the school. These resources are valued and regarded as a means for school activity. The system model therefore emphasizes on internal flexibility, adaptability, and preparing for environmental change.

2.3.3 Dimensions of School Effectiveness

School effectiveness is one thing with many things; with no single measure that captures all the variation. It involves many key factors like leadership behaviour and administrative functioning; climate of the environment; community support; efficacy, commitment and satisfaction of teachers (Uline, Miller, & Tschannen-Moran, 1998). As a result, the survival of a school as a social system according to Parson (2013) are critical function of its ability to adapt to her external environment, achieve set goal with a definite objective, maintain high social integration and the have a strong value system and culture. However, in recent years, research investigating how well teachers succeed in providing quality education that foster learning particularly those characteristics that predict effectiveness in school have been on the increase (Kunter et al., 2013). An effective school as viewed by Sammons and Bakkum (2011) is one which add values to students' outcome and make them progress further. Sun, et al. (2007) submitted that school effectiveness is best described by identifying those representative factors that are peculiar to an effective school and observing the difference in their educational outcomes. These factors therefore are key mechanisms that emphasizes on feedback, evaluation and reinforcement in school.

Likewise, Samy and Cook (2009 p.186), stated five-factor model of school effectiveness as identified by Levine and Lezotte, and became widely acceptable in the 1980s. These factors are: principals' ability to set goals; universally acceptable instructional focus; environment conducive for teaching and learning; high teachers expectations and belief that all students can learn; pupil achievement routinely measures for program evaluation. Also, to Creemers and Kyriakides (2007), school

effectiveness is how the school impact factors of school policy, mission and climate influence the students' cognitive and affective performance. So, it could be said that, effectiveness is a function of studying growth and progress in achievement of students as a criterion for school assessment.

In a study on relationship between school and teaching effectiveness in Taiwan comprehensive high schools, Wu (2005) identified nine factors of school climate, environment and facilities, job satisfaction, student achievement, teaching and evaluation, principal leadership, parent and community involvement, curriculum implementation and administrative support as measure of school effectiveness. The results of findings revealed that the current status of teachers' teaching effectiveness was considered moderately high and therefore suggested the need for school administration to emphasize more on teaching effectiveness and good classroom climate to enhance effectiveness in public schools. This current study therefore examined school effectiveness based on four constructs of productivity, adaptation, cohesiveness and commitment as suggested in the study of Hoy and Ferguson (1985) that is, effectiveness could be examined through the assessment of the extent to which production, integration, cooperation and collaboration contributes to the satisfaction of both individual needs and organizational outcomes.

2.3.3.1 Productivity

Productivity in an organization is basic to effectiveness which is a pertinent and persistent issue that gives an assertive answer to all concerned on whether or not they get benefit on their various inputs into the education system (Amah & Ahiauzu, 2013;

Hill, 2014). Assessing productivity of service rendered in school is bias and problematic, but however it is measured, it should reflect the school regular routines and duties; elements of professional activities of teacher; and cover different cultural background, knowledge and experiences (Aminuddin, Tymms, & Habsah, 2008). Research on productivity in school according to Sass, Semykina, and Harris (2014) solely rely on the value-added models used to evaluate the teacher impact on school, particularly the student performance. That is why productivity in school effectiveness is viewed in terms of quantity and quality of educational output involving effective teaching and learning, planning and organizing of teaching, guidance and counselling and idea of the school.

Moreover, Shamaki (2015) describes productivity as the assurance of development and progress in a school which is measured in terms of teacher performance in the classroom, what they control and do in the classroom, and the entire teaching effectiveness. In a study on the influence of school climate on student achievement and productivity of teachers in Lagos State, Nigeria; the findings revealed significant relationships between the climate of the school, performance and productivity of teachers (Adeogun & Olisaemeka, 2011). The climate of the school, the environment, and the relationships among the principal, teachers, and students are all factors that constitutes to the performance and productivity of teachers.

2.3.3.2 Adaptation

The school is a dynamic social system where people work together to achieve predetermined goals. The degree to which the school system reacts to the demand and

pressures of forces and conditions of its environment describes adaptation (Friedman & Allen, 2011). According to Leko, Roberts and Pek (2015), there is need for teachers to make adaptation to the school environment in order to align with the demand of the individual students. As such, adaptation of teachers especially the novice and those with minimal preparation will be help in creating a successful and sustainable programme implementation especially those ones related to instructional programmes or teaching and learning.

Research in education has focused on the factors that influence teachers' adaptation and a healthy school adaptation has been found to predict school achievement (Akçinar, 2013; Stevens & Van Houtte, 2011). Schools with strong culture of adaptability are more likely to have teachers who are united, cooperative; and share a larger vision. Adaptation involves communal collaborations and interactions between the system and its environment, which ultimately results in both being changed.

Adaptation process occurs as individual adjust to relate with the immediate need of the environment in satisfying his motives and incentives by exploring best practices (AlZboon, 2013). This statement was corroborated by Pianta, Kagan and Tarrant (2010) when they submitted that, the inward bound of teachers and students within a school is somewhat difficult considering the need to adapt to the desirable pattern of behaviour required to fit in and function well in the school environment. The impact of adaptation in school is through understanding of how the schools operate.

Studies have however found the ability to adapt to school environment to have effect on students' behavioural pattern, social adjustment and long term academic success (Hughes, 2011; Schmitt, Pentimonti, & Justice, 2012). Similarly, in the findings of Harn, Parisi and Stoolmiller (2013) in their study on balancing fidelity with flexibility and fit in schools, teacher who frequently adapt in the best interest of her students maximizes the intervention potentials and this in turn positively affect student outcomes while the other teacher who is rigid in adherence to changes result to low student engagement and poor student outcomes. This implies that understanding the school practices and policies has been proved to be significant in predicting school adaptation.

2.3.3.3 Cohesiveness

A group can be said to have cohesion when the members are connected and committed to have positive feelings toward one another; they share similar views on various issues and common goals, tolerate one another, give total support to colleagues and the group as a whole; towards achieving greater productivity and fulfilling the organizational aims and objectives (Carron & Brawley, 2000). It is in the view of Pagani (2015) that cohesiveness was described as an effective weapon against segregation, marginalization, discrimination and unwarranted diversity; it keeps members of an organization together, strengthen their relationships and help them attain goals easily. Cohesion, an active process which reveals the tendency for group to come together and remain united in the fulfilment of individual member affective needs and pursuance of organizational intentions is usually connected with group performance and outcomes (Carron, Brawley, & Widmeyer, 1998; Lemieux-Charles

& McGuire, 2006). That is, the beliefs about individual group members is usually centred around personal and collective efforts or concerns.

2.3.3.4 Commitment

Teachers are expected to be committed to their work at all time but the commitment of teachers solely depends on the background of the school, attitudes demonstrated by their principals, school size and culture, and principal leadership (Huang, Lee, Zhang, & Wang, 2016). The commitment emerges when they show a higher level of performance through taking additional responsibilities in their duties (Sarikaya & Erdogan, 2016). Thus, it could be said that, commitment is ability of teachers to sincerely adopt school's long-term and short-term goals with great zeal, eagerness and willingness to exhibit better performances than it is expected of them towards attainments of the objectives.

However, previous researches indicated that teacher commitment and leadership are influential factors in school organization and effectiveness (Ibrahim, Ghavifekr, Ling, Siraj, & Azeez, 2014). Similarly, higher teacher commitment has been found by Razak, Darmawan and Keeves (2010) to bring about high level of student and school outcomes. This is because, committed teacher shows enthusiasm towards teaching and learning, maintains high standards, set goals for student performance and promote orderly environment conducive for learning.

Organizational commitment according to Demir (2013) is imperative in describing the participatory level of an employee in any organization as well as the innovative

characteristics of the organization. Organizational commitment relates to teachers' commitment to work place within which her services are rendered as specified by her sense of loyalty to the school values and goals (Thien & Razak, 2014). This was classified by Collie, Shapka and Perry (2012) into two forms; the level of attachment teacher has towards the teaching profession, and the level of participation and empathy a teacher has with the institution.

Commitment is the attitude, behaviour and willingness to put forth as shown by teacher towards the school, the teaching profession and students' learning in order to improve the general school performance particularly academic achievement. It is essential to school because, committed teachers are often satisfied, more productive and preserve school purpose of existence (Yusuf Cerit, 2010). According to Nayir (2012), loyalty of teachers to the profession and school goals can be attained if they are fully supported to fulfil the school objectives. Teachers who feel the support of the school, principal, co-teaching staff, students and parents will feel more confidence and peace; this will increase teacher contribution to school and in turn bring about commitment to school.

2.4   School Climate

A growing body of academic researches has advanced variations and diverging opinions on definitions of school climate, yet in all, there exists a substantive similarity in all components. The school climate research which stem out of the organizational climate research of the mid 1990s which was a central variable in educational research, yet it can be distinguished systematically as a study that began in 1950s and transcend

into several decades (Houtte, 2005). Research in organizational climate began in the early 1930 and was on the increase through 1960s. Early studies of school climate emanated in the 1960s and 1970s, were closely linked to the study of the school principal's leadership behaviour (Croft & Halphin, 1962). In this study, the impetus for research on school climate stem from the common and obvious observation that, school varies in their organizational environment and in principal's ability to consummate acts of leadership.

Although comprehensive review of school climate research exists recently, there have been significant differences in the approaches to the study of climate (Anderson, 1982; Schneider, Ehrhart, & Macey, 2013). Describing organizational climate by link, Croft and Halphin (1962) specified that, as personality was to the individual, climate was to the organization. That is, climate is the shared perceptions of and the meaning attached to the employees' experience and the behaviour they observe while getting rewarded at work.

Even though, significant research was carried out in the area of climate studies, truly, educators have recognized the significance of school climate for several decades (Anderson, 1982; Croft & Halphin, 1962; Smith, et al., 2014; Thapa, et al., 2013; Thapa, et al., 2012). Generally, the term climate can be viewed in a variety of ways, within the field of geography, it can be viewed as the weather condition of a region such as the temperature, wind, humidity and cloudiness. Indeed, Ogaz (2016) suggested that school climate should be theorized as a diverse social related effects functioning in a complex setting with multiple variables mediated and moderated

linking them in order to specify theory driven-models of different school outcomes. This implies that, climate is an elusive concept used to precisely express the enduring situation of an organization with several approaches.

In the school context, climate was described by Cohen, McCabe, Michelli and Pickeral (2009) and Thapa, et al. (2012) to be grounded by different forms of school experiences which reflects norms, values, interpersonal relationships, teaching and learning practices and organizational structures as perceived by people within the environment. It is the core heart that brings about virtuous learning in a school; whereby both teachers and students are motivated to be part of the school and always looking forward to being there each day (Freiberg & Stein, 1999).

Therefore, it is the perceptions of teachers on general work environment of the school as well as its quality of experienced which reflects interpersonal relationships, values, norms, teaching and learning practices, goals, and organizational structures based on various experiences and feelings of school life. It also involved various aspects of school life such as relationships, school environment and most importantly overall school experiences. From all these view, it could be said that school climate is the degree to which the principal is able to shape the environment positively for teachers and students to feel supported in discharging their work within the school. That is, an environment where teachers can trust their principal, in terms of help in their profession and with a participatory decision making especially on the issues affecting them.

However, relating a body of school climate literature will require more precise and specific constructs. Insel and Moos (1974) developed a consensus on the basic properties of school climate which is concerned with human interactions with physical and social dimensions of the environment and psychosocial characteristics; the geographical, meteorological, architectural and ecological factors that are important to the environment; the material and behavioural components of the members arising from the organizational structure; the individual characteristics of members within the environment; and functional dimensions of specific situations.

Through a review of research, Croft and Halphin (1962) perceived school climate based on principal-teacher related factors like hindrance, intimacy, aloofness, consideration, production, thrust, disengagement and esprit. Also, Hoy, Sweetland and Smith (2002) found four encompassing constructs that make up the concept of school climate. These domains are: principal leadership, teacher, achievement press for student to perform academically; and vulnerability to the community. These, according to Anderson (1982) were categorized as social system and culture. This was in line with the submissions of Hoy et al. (2002) and Croft and Halphin (1962) which revealed that most researches of school climate focus more on the individual personality and belief system that influence social development of the school. A review of research studies on school climate with a summary of variables related to climate is summarized in the table below.

Table 2.1

Dimensions of school climate

S/N	Author/Year	Dimensions
1	Hoy and Croft (1963)	Hindrance, Intimacy, Aloofness, Consideration, Production, Thrust, Disengagement, Espirit
2	Hoy, Smith and Sweetland (2002)	Principal Leadership, Teacher Achievement Press, Vulnerability to Community
3	Wheelock (2005)	Supportive Behaviour, Directive Behavior, Restrictive Behavior, Principal Openness
4	Uline, Wolsey, Tschannem-Moran and Lin (2010)	Academic Press, Community Engagement, Teacher Professionalism, and Collegial Leadership.
5	Thapa et.al (2013)	Safety, Relationships, Teaching & Learning, Institutional Environment, School Improvement Process.

For this study, dimensions of school climate will be adopted from Taguiri 1968 Taxonomy in order to evaluate the various dimensions assigned by school climate researchers. He studied climate in four dimensions: ecology which involves the environment, that is, the physical/material variables in the school that are external to members (building and facilities, materials and equipment); milieu explains the general wellbeing, with characteristics and satisfaction of individual members of an organization, social system which describes the administrative practices, operations and interactions in an organization; and finally, culture reflects the beliefs, values, norms in the school as well as expectations and evaluation for quality education.
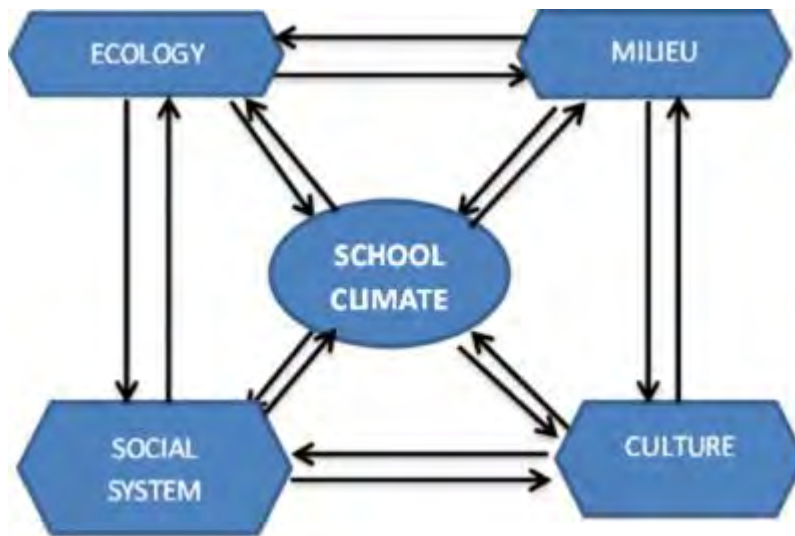
Figure 2.1. Taguiri's dimension of school climate

Source: Anderson, (1982)

Although, there are several other researchers that developed similar categorization to conceptualize the school climate (Barker & Gump, 1964; Freiberg & Stein, 1999; Insel & Moos, 1974) but, Taguiri taxonomy is preferable because it gives a precise and broader specification of constructs that deals with the entire attributes of the school system (Anderson, 1982; Ruane, 1995). The taxonomy of climate-related terms developed by Taguiri (1968) provided an effective system for organizing the school climate literature due to its comprehensiveness.

This taxonomy includes: ecology – which comprise of the physical and material aspect of the school environment (building and facilities, materials and equipment, financial incentives and special services); milieu - which is related to the dimension of characteristics of individuals and groups in the school (their satisfaction and well-being); social system - is the aspect of social dimension concerned with pattern and operational rules guiding interactions in the school (administrative practices,

supervisory relation, school-community relationship, performance and development); and culture – which is concerned with beliefs, values, orientation, school activities and attitude towards the environment

However, research findings revealed that, schools that has good climate perform better, as climate influences academic achievement of students and productivity of teachers (MacNeil, Prater, & Busch, 2009; Odeh, Angelina, & Dondo, 2015), thus the need for a good climate facilitate effective teaching and learning in secondary schools.

2.4.1 Dimensions of School Climate

2.4.1.1 Ecology

It is important to consider the fundamental aspect of school climate which is the physical environment. Over the last 50 years, sociologists have made efforts to find out what makes school to be acknowledged as an institution (Tyler, 2012). There's no gainsaying that ecology of the school has a great effect on the success and improvement of school. According to Korir (2014), ecological issues depend on school composition; the climate and structure which differ among schools within a community and significantly influence the academic achievement by the type of school student go to.

Furthermore, the role of school environment in teacher dissatisfaction among U.S. public school teachers was studied by Moore (2012), where school environment was described through a social-ecological perception and it was found to play a statistically substantial role in the displeasure of teachers on their job. Therefore, it has been

recognized as an important factor which reflects on elements that create a conducive and supportive environment and in turn enhances school experience as well as interaction between people and the environment. Ecology has been classified into school physical environment, building and facilities and material/equipment as discussed in the next paragraphs.

The desire for a quality education in Nigeria has resulted in the need to provide an effective and conducive atmosphere for teaching and learning (Odeh et al., 2015). Also, Yusuf and Fasasi (2015) stated that an efficient and effective educational system requires provision and utilization of physical plant. Teachers and students spend a longer hour in school, and then, there is need to make the school inviting, attractive, orderly, supportive, comfortable and easy place to work. Therefore, a conducive environment for teachers and students is a prerequisite for effective teaching and learning.

The school physical environment comprises of the site of the school location, Physical structures of buildings, its infrastructures, surroundings and materials are what teachers and students come in contact with. Adeogun and Olisaemeka (2011) recognized the type of physical resources managed by the schools. They include school physical structures, infrastructure, buildings, administrative staff offices, school furniture, classrooms, laboratories, libraries, hostels, auditorium, technical equipment and other physical plants like, machines, computer set, photocopying and duplicating machines. Truly, school physical environment encompasses the school building and all its contents.

Considerable research conducted on school environment revealed that, the school physical environment is a component of productivity which set a parameter for students' learning experiences (Korir, 2014; Lawrence & Vimala, 2012). According to them, the school atmosphere is the extent to which school settings promote students' safety and health which should include physical plant, academic environment, and available physical support services. The site which the school is located and surroundings that people come in contact with varies across countries and within communities.

Equally, school fulfilment of student needs and engagement are not the same in all schools (Wang & Holcombe, 2010). Consequently, the learning environment in which students find themselves have a positive or negative influence on their behaviour as they meet the demand of life (Odeh et al., 2015). Therefore, concept of physical environment as relates to physical state of the school structure, spaces, equipment and tools must be supportive for teaching for any meaning and effective learning to take place.

The quality of school location has been perceived by Buckley, Schneider and Shang (2005) to affect the ability of teachers to teach, their morale, health and safety. This was corroborated by Isaiah and Nenty (2012) when he stated that, the structures in a school is a predictor of teacher job satisfaction, self-esteem, morale and the quality of services rendered. Uline, Wolsey, Tschannen-Moran and Lin (2010) submitted that teachers may show less commitment and interest towards their work and lack of

readiness to go beyond minimum standard for student to learn when the buildings are in a dilapidated state. This implies that buildings are considered costly physical assets of a school which is essentially required for the smooth operation of the school without which a school cannot function maximally.

Also, the process of teaching and learning can only take place in a structured environment where direct and indirect part relevant to the school are well organized for its smooth operations and to also facilitate adequate learning. This according to Asiabaka (2008) involves equipment for academic and non-academic activities, furniture, facilities, lightening, toilets, areas for games & sports, storage facilities, parking lots, security, transportation, cleaning materials, food services, information and communication technology (ICT), and special facilities for the physically challenged persons. That is, in order to convey a smooth quality and accessible education to learners, there is need for a conducive and favourable learning environment that is properly maintained.

Additionally, educational aims and objectives cannot be realized without satisfying the physical and emotional needs of teachers in the school. Teachers' physical needs include a physical environment that supports teaching and lesson with access to a broad range of facilities and resources available to all and also meet the need of the teachers and learning needs of students. As described by Zepatou, Loizidou, Chaloulakou and Spyrellis (2016) and Asiabaka (2008); the physical needs are met through setting up of safe structure, providing suitable and healthy amenities, stable visual environment, suitable thermal environment, appropriate space for work and

play, while emotional needs are met by creating an enjoyable atmosphere, satisfying surrounding, and a stimulating school environment.

Meanwhile, research results have repeatedly demonstrated strong connections among quality school facilities to student achievement, attitudes and outcomes; as well as attitude and behaviour of teachers (Buckley, Schneider, & Shang, 2005; Schneider, Ehrhart, & Macey, 2013; Uline, Wolsey, Tschannen-Moran, & Lin, 2010). It was further stressed that the availability of school facility is essential in the prediction of decision of teachers to leave their current position, even after controlling for other contributing variables. Therefore, School facilities have been observed as a factor required for school growth and development and thus, should be treated as an active tool needed to improve and support the processes.

Similarly, equipment plays an essential role in physical, mental and emotional state of individuals in any organization especially the school. It makes teacher task easier and effective, make learning accessible to a wider audience, and promote a better understanding for administrators to cope with physical difficulties in the school (Buckley et al., 2005). The place where teachers sit to deliver her lesson should be fixed conveniently to enable thorough supervision of the entire students and have a glance over their activities especially in the classroom (Isaiah & Nenty, 2012). The lack of education resources in a school has viewed may contribute to teacher job dissatisfaction.

According to Mazgon and Stefanc (2012), education materials are mostly written materials (either printed/available in electronic form) required in addition to teacher's direct explanation which helps teacher to consolidate instructions, stimulate learning and enable higher level of comprehension on the part of students. When these materials are properly used, it makes teaching convenient on the teacher's part and makes learning clear, understandable, substantial and simplify complex ideas to be more comprehensive by students (Saglam, 2011). This material consists of books, dictionaries, textbooks, diagrams, charts, and other materials specifically organized and prepared to be used during the teaching and learning processes.

Besides, schools should ensure materials that will satisfy student needs are developed to enhance teaching and foster interactions and a long-term learning (Núñez, Fernanda, & Téllez, 2009). Findings from study conducted by Can (2010) revealed that, students specified the use of overhead projector in classrooms brings a significant change to the teaching, prevents monotonous teaching and create a more lively, colourful and smooth teaching and learning processes.

Similarly, in the work of Saglam (2011), the study investigated if sufficiency of teaching materials affects the usage of printed materials and teaching experience. It was found that if schools have adequate materials/equipment, the teachers have tendency to make use of the teaching materials more in their lessons. Therefore, it is important for teachers to have material that will promote enjoyable and pleasant learning. This will not only make teaching task easier and more effective, but rather help teacher overcomes any physical difficulties in presenting the subject contents.

2.4.1.2 Milieu

The way teacher and student feel about themselves is a function of the leader. Learning however takes place within a web of social relationship as principal, teacher and learner interact both formally and informally. The fundamental responsibility that a school leader should take here is ensuring that every member of the school feel like somebody. According to Whitaker, Whitaker and Lumpa (2013), individual's demand and live beyond school should be understood, and appreciating the multifarious things teachers navigate across can lead to productive and positive morale. Therefore, school should show and promote a positive environment by being aware of personal side of teachers, showing interests in their families and children, and having sensitivity to their outside interests.

Undeniably, Shah (2012) specified that teachers' additional administrative task, demanding schedules, and workloads may make hinder them to make the time to talk together, they therefore need chances to relate with each other to make their work more significant and keeps the school lively. Providing opportunities for teachers to get more involved in school activities is a great way to boost teacher collegiality and build confidence in them. A good way to accomplish this is to get teachers involved in key roles and contribute to issues that matters to the school. Hence, a collegial school environment may promote a supportive climate that improves teacher enthusiasm and provides a continuous support for professional development.

It is equally important that school head should continually emphasize on positive approach in key elements that will enhance the morale of teachers he work with. Teachers' positive efforts when properly acknowledged may help reinforce their teaching to be more effective. That is, when teachers have good morale, they feel committed to the school, loyal to their principal, work harder and motivated to be more productive (Werang, 2014). Therefore, teacher morale is a factor that may impact on lesson delivery, students' attitudes and performance and teacher effectiveness.

In the same way, Whitaker et al. (2013) corroborated this by stating that, high level of teacher morale has a significant impact on positive school climate, if the climate of a school is positive, exciting and productive, then teachers in that school find it pleasurable to be at work. If otherwise, it will in the long run frustrate any positive move that might have been present. This of course, will affect the wellness of the school, the state of mind of a person or group working in the school and readiness to perform assigned task.

Therefore, school should create a setting that fosters vision that reflects teacher sense of purpose as school image is seen through the capability of relationship with people and team work among members within the system (Korir, 2014). Thus, regular conversation that helps articulate teachers' aspirations in the profession and make them confident in their contributions should be incorporated. This will improve the climate of the school, reduce discipline problems, improve achievement, enhance more respect and help to others and develop a collective responsibility for the wellbeing of the school.

2.4.1.3   Social System

School, a structural system with a dynamic and complex environment where teachers turn to their colleagues for guidance, support in solving difficult problems in their work is a complete social and open system with other subsystems like departments, sections and units in which people interact with and influence one another. According to Bascia and Maton, (2015), the complexity of the system necessitates the schools and administrators to have a functional structure and comply with rules and expectations for connection of the systems.

Although Osterman (2000) claimed that the size of a school is a fundamental factor in determining the interpersonal relationships of members of the school system, social integration enhance positive relationships among the principal, teachers and students, which brings about a positive school outcome. Hallinan (2008) stated that, the unique role teacher plays in the school with the experiences that is created for students contribute to their feelings about school. Thus, the support received by students from the teachers who are the strategic actors in the system gives them confidence in their perspectives towards the school and their wellbeing.

For instance, Van Maele and Van Houtte (2011) in their study conducted among 2,104 teachers across 85 secondary schools in Flanders, Belgium explored the quality of secondary schools social system by relating teacher-student trust to that of the school context using a multilevel analysis approach. The findings of their study revealed that, the school composition and size is associated with the teachers' perspectives of trustworthiness. The school system should therefore encourage positive social support

within and outside the school for all the stakeholders particularly among students whereby they all feel valued, cared for and connected with the system; this may result to high level of encouragement from teachers, high level of student academic achievement, and zeal to remain in school.

2.4.1.4   Culture

The term culture plays a significant role in shaping the character and organizational atmosphere of any setting (Gruenert, 2008). It is the total way of conveying beliefs and patterns of an organization which sets the pace for the day-to-day operation in any organization (Tharp, 2009). In describing culture, Schein stated that:

"The culture of a group is a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein, 2010, p p,17).

It was referred to as an abstraction with wide range of observable events with some underlining forces, which were described as those traditions and customs that evolve in an organization; the language used and rituals employed in various situations; embedded principles and values that evolve among workers in an organization; publicly announced principles and values that the group claims and adhere to achieve; ideological principles and policies that guide a group's action towards employees and stakeholders; unwritten rules required for getting along within an organization, that is, rules new comer must know to become an acceptable member; those feelings that are

borne in group by physical layout and way in which the members interact with those within and outside of the organization; and the capabilities shown by group members towards tasks accomplishments, that is, ability to make certain things pass on from one generation to another without necessarily being articulated in writing (Schein, 2010). Thus, it surrounds us by our dealings or relationships with others which is ultimately manipulated by some set of rules, norms or structures that guide the behaviour of individual and group members in any organization.

Meanwhile, MacNeil, Prater and Busch (2009) and Waldron and McLeskey (2010) posited that; focusing on the existing culture of a learning environment is crucial to the improvement of a school, higher morale of staff and excellent students' achievement. In other words, there is need for a school to understand clearly those characters that involves attitudes, customs, standards, values, beliefs and traditions which have been established for people to change their ways of doing things and solving their problems as they work together.

Schools are very complicated institutions that harbour many conflicting cultures which affects the system particularly among the students in the classroom. They have diversity in their habits, language and traditions. When there is complexity in the pattern of behaviour, attitudes and values of school, things may not go well in such school, therefore, a school head should understand the role culture plays in school development (MacNeil et al., 2009). Hence, the eight principles were suggested by Peterson (2002) as to help build culture that will support commitment, motivation and higher achievement in school; stating a clear and inspiring vision with limited mission.

This include: creating an opportunity to link learning to the established vision and mission that caters for students' interest, providing enough time for teachers and students to carry out their work, continually assure quality practices to check everyone's work.

Others include maintaining a close but supportive relationship among teacher-student, teacher-teacher, and student-student; taking responsibilities and creating avenues to discuss fundamental issues; protecting trust, innovative ideas and adaptation to change; making decisions that are accurate and progressive; unwavering support from parents and community support for school vision and mission. These set of stories and events can be used to shape the ways teacher and student behave, feel or act in every aspect of school conduct. They constitute values and beliefs that build up as management, parent, teacher and student work together when dealing with challenges, coping with failures and solving problems that concern the school

As studied by Inuwa and Yusof (2013) in a research conducted on the effects of school culture on students drop out in schools of Sokoto metropolis, the study posited that students' success in their academic pursuit is relatively associated to the positive school culture. This is similar to the finding of Hongboontri and Keawkhong (2014) who concluded that positive school culture influences school effectiveness based on improved student achievement as well as teachers' satisfaction. Based on this, Inuwa & Yusuf (2013) sees culture as an integral factor of school activities and a yardstick for measuring school outcome which can either be positive or negative. As revealed by Kwantes and Boglarsky (2007), no school can develop or grow a positive culture

if there are negative attitudes and approaches to issues concerning them, that is, culture has a significant positive effect on the effectiveness of an organization.

2.4.2   School Climate and Effectiveness

Greater number of characteristics such as student-teacher relationship, their sense of belonging, support and attitude towards school, as well as their moral and commitment are all significantly related to the climate and effectiveness of the school (Ho, 2005; Mitchell, Bradshaw, & Leaf, 2010). Many researchers like Cohen and Geier (2010); Dagnew (2014); MacNeil et al. (2009); Othman and Kasuma (2016); Thapa et al. (2012); Tubbs and Garner (2008) argued that, schools with higher performance have a stronger sense of belonging and disciplinary climate, therefore the school climate critically affects the overall success of a school. With this submission, researchers are more aware of the influence of school climate on various school attributes, teachers' commitment, dedication and satisfaction in their work.

For instance, in a research conducted by Dagnew (2014); the study used a survey method to explain the impact of school climate on student academic achievement in Ethiopia secondary schools through a systematic random sampling involving 6 principals, 20 teachers and 662 students. The findings substantiated that school climate factors like student-student relationships, teacher-student relationship, academic concentration and effective administration are correlated with student achievement.

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As reported in a study on leadership style, school climate and institutional commitment of teachers in Northwest Georgia rural basic schools in Atlanta Georgia by Tubbs and Garner (2014) using mixed methods to gather information from 42 faculty staff members, some of whom are Africa-American, Caucasian, and Hispanic on their disposition to the overall school climate. Using Rasch Measurement model to analyse participants' responses, findings of the study disclosed that school climate appears to show early negative impact on performance of students as their reaction to an open-ended questionnaire shows that teachers expressed dissatisfaction with the administration and the working environment; they also show lack of morale and respect for the school.

Adeogun and Olisaemeka (2011) conducted a study on the influence of climate on teacher productivity and student achievement in Lagos secondary schools, Nigeria. The study examined the perception of principals, teachers and students on working conditions; physical and socio environment; relationships and safety of members of the school and teachers care and support and found that, school climate influences performance and productivity of the school.

Similar study in Nigeria was reported further by Okorji, Igbokwe and Ezeugbor (2016) in a study on relationship between school climate and principals' job performance in Enugu State secondary schools, using, two set of instruments Organizational Climate Index and Principal Self-Assessment questionnaires were used to gather information from 177 principals from all the 283 secondary schools in the State. Using Pearson Product Moment Correlation statistics for analysis, the findings revealed a statistically

significant relationship exists between collegial leadership and teacher behaviour aspect of school climate and job performance of principals. Therefore, the results of the reviewed study indicated that climate affects the outcome of teacher productivity, student academic achievement and school performance.

2.5   Bureaucracy

Bureaucracy according to Tierean and Bratucu (2009) are sets of regulatory measures required and drawn by government for control of the activities of an organization which are represented by a standardized procedure that prescribes the execution of all processes within an institution. That is, a pattern of ordering specifying relationships among personnel in any setting with an authority being vested in a position rather than in an individual directed towards achievement of organizational goals.

The study of bureaucracy began with the work of a German Sociologist called Max Weber (1864-1920) who sees it as a positive force to provide a foundation for stabilization of any organization. He practically studied various organization existing and evolve the concept of bureaucracy as an ideal form of organizational structure specific contemporary analysis of bureaucracies, namely: division of labour, hierarchical rules, impersonality and competence (Harper, 1965; Ihejiamaizu, 1996; Olsen, 2005). As reported by Tierean and Bratucu (2009), it was further introduced in France by a French philosopher, Vincent De Gourmay, between 1964 and 1965. it emerges as government of states expand during the modern period, following the industrial revolution when administrator's role increased as government functions

multiplied; corruption and nepotism became recognized within the administrative system; which led to a total reform in several countries as at the end of 19th Century.

However, empirical research on bureaucracy in schools can be traced to the work of Weber (1947), and as such, bureaucratic model is becoming increasingly useful in studying the structure of educational organizations (Punch, 1972). It is an undisputable fact that the management of the school system and its human resources components are very cumbersome, and censoriously required real attention and consideration especially to issue that are critical (Cheloti, Obae, & Kanori, 2014), that is why it is necessary to create a system that absorbs resources and cater for dealing with issues for positive achievement.

Accordingly, organizations like schools are difficult to run due to its conflicting internal and external interests, diversity and complexity of the people involved; which may lead to hostility in the environment and unpredictability of outcome (Perrow, 2008). That is why, school leaders have to design their routines and standardize the school programs in order to monitor student and teacher performance and align classroom practices to be more transparent and reflective of the curriculum content (Frederickson, Smith, Larimer, & Licari, 2015). This are referred by Spillane and Kenney (2012) efforts of school leaders in framing policies that would appeal to teachers' interest, values, norms and goals by setting the agenda.   The non-elected members of the organization will however, come together to implement the rules, laws and functions of their institution.

The school system is designed to carry out many managerial and administrative functions which bureaucracy is capable of handling especially in the area of policy implementation challenge in the school. Meanwhile, Wong and Sunderman (2001); and Bohte (2001) opined that a bureaucratic organization like a school can increase the top administration in their ability to attend to the collective interest of the members of the organization and strengthen the centralized authority of the school system. Therefore, absence of proper administration might force teachers to spend more reasonable time on administrative matters rather than teaching in the classroom which would make teachers' work more cumbersome and place burden on them; that is, reducing bureaucracy in school may result to a decline in the overall performance, as fewer experts are available to address administrative matters.

Secondary school principal are bureaucratic officials working to ensure that the legally established policies and procedures of the schools are executed in a manner that will facilitate accomplishment of predetermined goals by employing critical thinking in the pursuit of educational problem-solving. They engage in elaborate efforts to design the structure of their schools in terms of leadership position, responsibilities, organizational routines or tools in an effort to transform school administrative practices to be more responsive to government policy (Spillane & Kenney, 2012).

However, researchers like Blau and Scott (2003); Hall (1987); and Hoy and Sweetland (2001) criticized and discovered contradictions among the principles of bureaucracy developed by Weber. They explored the impersonal nature of the model and found that the theory neglected the informal elements which also persist in an organization.

Likewise, Mintzberg (2013) argued that the informal system though not part of the organizational chart spring up from the formal system and their separation may be impossible or difficult. This implies that informal interaction frequently occurs among members of a formal setting which is an important means for goal attainment in the organization.

Similarly, Katzenbach and Zhan (2010) perceived Weberian bureaucracy as problematic considering that formal aspect of school focus mainly on efficiency of the system, likewise, informal system in the school supports administrative practices which in turn promote effectiveness. As illustrated by Mintzberg (2013) and Berliner and Biddle (1995), Weber does not clearly specify whether a principals' authority lies in bureaucratic office or professional expertise and in turn identified that educational bureaucracies tend to strip teachers of opportunities to exercise professional autonomy. Thus, bureaucracy functions where job description is more elaborate, and this does not give consideration to school size and type.

For all that, Hoy and Sweetland (2001) gives two illustrations of bureaucracy as the dark and bright sides. They reveal that the first aspect hinders creativity, brings dissatisfaction and demoralizes workers while the other displays a bureaucratic structure that clarifies responsibilities and gives employee guide which enables them to be more effective. They therefore examined bureaucracy through two crucial features; formalization (flexible guidelines that reflect best practices and help employee deal with crises) and centralization (authority that help employees solve problems and exercise power in their professional roles). That is, from coercive to

enabling for formalization and hindering to enabling for centralization. Indeed, the principal may hinder the school structure when schools are tightly controlled and managed by him and also improve it by ensuring the available structure enable teachers and students do their job in a more innovative, creative, supportive and professional way (see the table 2.2).

Table 2.2
Characteristics of School Structures

Enabling structure	Hindering structure
Facilitates problems solving	Expects blind adherence to rules
Enables cooperation	Promotes control
Encourages collaboration	Act autocratically
Promotes flexibility	Displays rigid
Encourages innovation	Discourages change
Protects participants	Disciplines subordinates
Values differences	Demands consensus
Delights in the unexpected	Fears the unexpected
Learns from mistakes	Punishes mistakes
Views problems as opportunities	Views problems as obstacles

Source: Sinden, Hoy, and Sweetland (2004) P,465.

As illustrated the above table 2.2, teachers will regard their schools as effective if there are less centralized decision-making structures, procedures and processes but rather more formalized general rules and higher professional activity. However, two disagreeing views emanated from the literature on the consequences of bureaucracy in school. Some researches revealed that bureaucratic structure frustrates teacher efforts and make school unfriendly to them while others expressed an increase in a pleasurable learning environment.

To many, it is tantamount to an oppressive superior who has an unconcerned employee, operating with red tape and rigid rules (DiPaola & Hoy, 2001). For instance, in a study which focused on bureaucracy and student performance in standardized test, a negative relationship was discovered between bureaucracy and student performance on standardized test, yet, it was argued that performance in school is a multifaceted concept which student results in examination is only an indicator of, and therefore, submitted that school bureaucracy is as a result of poor performing school (Bohte, 2001). So, it could be said that, bureaucracy can have some negative impacts when problem exists, and administrators put more burden on teachers forcing them to spend time more on administrative matters.

In a study on bureaucratic organization and educational change by Kimbrough and Todd (1967), they condemned bureaucratic structures in schools and asserted reasons why schools should not be a bureaucratic setting due to its inability to recognize differences in ideas among the teachers which decreases inspiration; thoughts from teachers would possibly be subjected to thorough examination by the superiors and official hierarchical members especially if the perceived idea were in conflict with the rational teaching behaviour and does not tolerate the development of mature healthy personalities in teachers. Hence, the fault of bureaucracy is not in the portrayal of qualities inherent in the structure but lie in the mishandling of the organization.

Furthermore, Kimbrough and Todd (1967) submitted that, adequate structures and processes are not available for the review of decisions in a bureaucratic settings; the

diversity of external inputs needed for the system are not catered for in bureaucratic organizations; the extrinsic reward does not encourage innovation but conformity; it is difficult to develop innovative solutions to new problems due to the prior resource commitment of the organization; bureaucracy do not give room for an informal organization; and lines of communication are not considered.

On the contrary, Hoy and Sweetland (2001) posited that an enabling bureaucratic school structure support teacher, encourages openness and proficiency and allow them to solve problems affecting them. Similarly, Smith and Larimer (2004) challenged the submission that bureaucracy leads to poor performance by stating that, theories that stimulate the relationships between bureaucracy and school outcomes are not necessarily wrong but imperfect as there are good reasons to expect a positive and negative relationship of bureaucracy and school outputs particularly under certain circumstances.

Moreover, Krueathep (2011) suggested that there is need to be specific when articulating school administration reform, as jettisoning school bureaucracy may not bring positive outcomes as many advocates have argued. This was corroborated by Ravitch (2010) and Saltman (2016) that bureaucracy in school is necessary in ensuring professional control of schooling with minimal external influence. The multifaceted nature of the concepts under study has however raised serious doubts about the general agreement concerning the negative relationship between school climate, bureaucracy and school effectiveness.

However, Weber bureaucratic perceptions remain a useful analytical tool and positive force in the management of public schools (Wong & Sunderman, 2001). Weber model of bureaucracy is adopted for this study on the basis of its foundation, wider recognition and the fact that schools and bureaucracies are a set of social system called organization which shows various characteristics such as rules guiding the conduct of members, hierarchical structure of the system among others.

Bohte (2001) asserted that, school administrators (school head, superintendent and other personnel) play a fundamental role in schools, they handle important administrative matters that teachers do not have time or expertise knowledge to address and therefore decreasing bureaucracy in school, especially the public schools would certainly bring about deterioration in school performance. It was therefore contended that bureaucracy in school leads to poorer performance. Therefore, this study examined the bureaucratic structure of the secondary schools based on the features identified by Weber (1947), that will enhance the administrative practices in schools.

2.5.1 Dimensions of Bureaucracy

2.5.1.1 Division of Labour

There is a great diversity in educational opportunities with students having dissimilar needs and teachers varying in their characteristics which allow teacher and student to be harmonized together for growth (Seshadri, 2004). This is why Okendu (2012) stated that, it is important for the staff (teaching and non-teaching) to be able to realize their sole responsibilities of improving and developing the school system. Therefore,

secondary school set up has indicated that the principal who is at the helm of affairs of the school is saddled with the responsibilities of deploying the schools' human and material resources for the attainment of educational goals, thus he makes some important inputs for teaching and learning to strive because the structures has a direct bearing on educational policies.

Meanwhile, administrative structure of a school was acknowledged by Chitiavi (2002) to have a direct effect on the classroom instruction, but lack of vision in the management and inability of the principal to encourage team work and spirit among teacher in the school may lead to an imbalance in allocation and use of resources and hinder effective teaching and learning (Oluremi, 2013). That is, accomplishment of assigned roles can only be achieved if the responsibilities are distributed among teachers with specialized functions.

Jacob and Rockoff (2011) and Fryer (2016) stated that, complete teacher specialization by subject would require large structural changes in the organization of schooling, it is required that teachers' subject area should be the departmentalized by assigning teachers to the subject which they are most efficient and effective. It allows them to focus more energy on lesson planning and reduce workload. That is, teacher specialized in teaching a subject may have more time to master specific subject content which may lead to an increased productivity and reduce burden on the teacher in terms of responsibility.

Administration can be facilitated by the principal by promoting a shared decision making and encouraging collaboration among teachers with a positive culture that supports trusts, efficacy and academic achievement (Wu, Hoy, & Tarter, 2013). In respect to this, teachers therefore need opportunity to meet collaboratively and plan their lesson together, develop independent teaching roles and schedule regular time for growth and development in their profession.

2.5.1.2　　　Hierarchical-Rules

An improvement in the autonomy of school administration turns out to be a shared responsibility over the past 20 years, with the sole aim of raising the performance levels and responsiveness through the decentralization of powers and responsibilities to the individual schools (Brauckmann & Schwarz, 2014). Nonetheless, organizations of any size, including schools, have already established administrative structures because they require properly designing and prescribing strict procedures and ordered structures to prevent confusion or mix-up and stimulate efficiency (DiPaola & Hoy, 2001). Therefore, authority is concentrated at the top level of the hierarchy and descends within a chain of command.

All organizations according to Gray, Kruse and Tarter (2015); Sinden et al. (2004) and Hoy and Sweetland (2001) are to some extent formalized with some written rules and regulations, that is, they have structures and schools are not excluded. Since schools are bureaucratic organizations, its main structural elements are characterized by existing rules, regulations, procedures, and a hierarchical structure. Thus, school systems according to Kilinç, Koşar, Er and Öğdem (2016) cultivate certain rules for

its operations which are in accordance with the expert knowledge and weight of hierarchical authority built into the system and specifically designed to encourage rational behaviour which are expected in achieving the organization set goals.

In fact, school rules as pointed out by Hoy and Sweetland (2001) and Sinden et al. (2004) can be used to facilitate or obstruct teachers in doing their job. There may likely be a strong rigidity between administrators and subordinates when the principal attempt to control the teachers who are professionals; this as according to DiPaola and Hoy (2001) may be perceived as an infringement on their professional autonomy. They may often feel pulled in opposite direction by strict adherence and control requirements of standardization and formalization, therefore, administrators should rather use rules to facilitate teachers' job performance and not to obstruct their job effectiveness.

In the same vein, higher centralization in hierarchy of authority is a common feature of bureaucratic organization; power is resolute and concentrated in the hands of few where decisions are made (at the top) and then, flows down the chain of command (Sinden et al., 2004). He proclaimed that, high centralization is a definitive form of bureaucracy whereby authority is concentrated at the top and flows unilaterally downward. Directives are given from the higher authority and are to be complied with accordingly by the subordinates without questioning.

The underlying idea is that the degree of autonomy can be heterogeneous among schools and depends on the different characteristics of principals based on the nature of governance, school climate and accountability (See figure below).
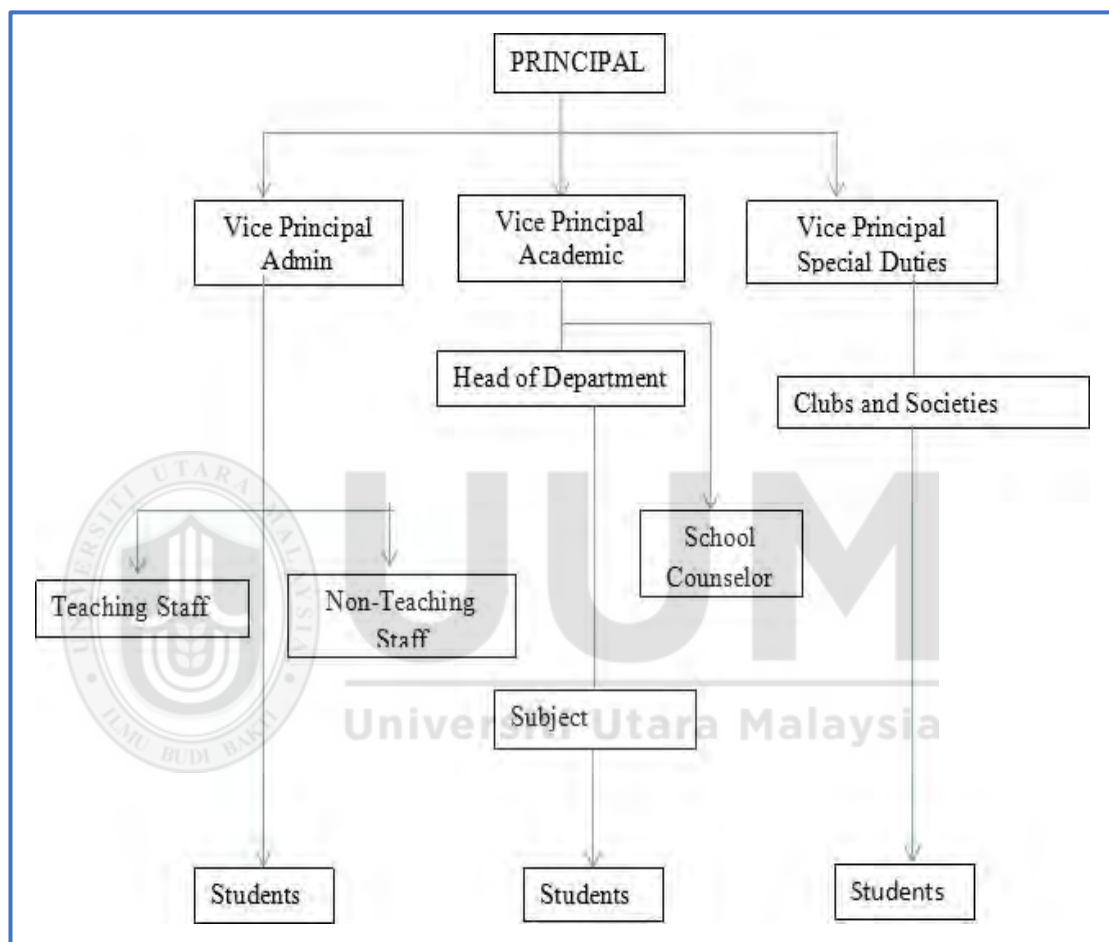
*Figure 2.3.* The Basic Organogram of Secondary Schools in Kwara State, Nigeria.

Source: Kwara State Ministry of Education and Human Capital Development (2016).

Therefore, organizational structure in school is inevitable, that is why schools have governing boards, administrators, curriculum directors, principals, assistant principals, departmental heads, subject teachers, and students. The school principal

who is the head and change agent serve as the intermediary between the governing board and the school and also interprets the framework as related to school practices.

2.5.1.3　　　Impersonality

Equality in school has been a fundamental issue for effectiveness especially in improving the process of education (Sammons, 2010); it helps to avoid indiscriminate regulations in school and ensure that educational outcomes are autonomous of all influences that may bring about inadequacy or drawback in terms of opportunities for all members of the school, particularly the teachers (Kelly, 2012). Impersonal relationships among individual is often connected with specific principles and overall rules of the organization within which they operate. While laying emphasis on impersonality in bureaucracies; Madan (2014) posited that it greatly depends on safeguarding position differences in maintaining hierarchy and control. Impersonality helps to develop sense of principle and reputation among individual group whom are carefully guarded to have genuine right to command and maintain a distance with outside circle to safeguard the legitimacy.

Although, decision making process in organizations usually involve some level of uncertainties and ambiguity, the quality and character of school leaders determine the ethos of the school and what happens in the system (Frederickson, Smith, Larimer, & Licari, 2015). According to Ebrahimi and Mohamadkhani (2014) and Mills and Ballantyne (2010), there are rules and regulations guiding the school whereby the principal has to be impersonal and formal in his behaviour, that is, he only acts based on the school normal regulations in order to stress the structural dimension. This is

because, teacher dispositions may affect the attitudes and believes towards handling issues. As a result of this, it is imperative that principals in school create a friendly atmosphere where teachers are treated impartially with admiration, respect, dignity and fairness.

The impersonal relationship between the principal and teachers is characterized by the norms, rules and regulations of the school where they operate (Werang, 2014). Findings of a research study conducted by Ebrahimi and Mohamadkhani (2014) showed that impersonality has the highest and positive significant correlation with teacher participation in their job. That is, teachers who often found principal behaviour to be formal and impersonal show more enthusiasm and energy towards their job. It is however desirable that principal stays aloof of the teachers and allows the school rules and regulations prevail in overseeing their day to day conduct.

2.5.1.4 Competence

Attainment of educational goals and objectives hinges on the methodical competencies and professional skills of the teachers (Ilanlou & Zand, 2011). Rahmatullah (2016) specified that teachers have an important role and greater responsibilities in sustaining the teaching and learning process through lesson preparation, implementation of learning activities, and following up learning. Therefore, there is need for an outward demonstration of inner capabilities and skills that an individual possesses.

Teachers are the keystone of quality and the arch of excellence whose professionalism and development is fundamental and central to quality education and improvement

(Kutch, 2009; Phin, 2014; Rahmatullah, 2016; Wardoyo, 2015). This according to Demirkasimoğlu (2010) is associated with improving the quality and standards in teaching profession based on the professional formation, knowledge, skills and values in accordance with proficiency in teaching profession. A professional teacher is the one who has a strong understanding of the subjects he teaches and is true to the needs of students as demanded by the teaching profession.

Professionalism as described by Wardoyo, (2015) is the situation, direction, principles, aims and quality of proficiency and authority relating to a person's occupation. Four key elements on phases of teacher professionalism were suggested by Demirkasimoğlu, (2010) to involve the pre-professional age – when teaching was administratively challenging but simple; the age of professional autonomous – when teacher gained a considerable pedagogical leverage; the age of collegial profession of increased efforts to create a strong professional culture; and the post-professional age.

Therefore, professional teachers are the most important element in the school system and that is why those who have competent skills with adequate qualifications, commitment to the profession, creative spirit and also willingness to continuously develop their abilities will contribute immensely to the student performance in particular, overall school effectiveness and educational development as a whole (Wodi, Oluwatayo, Gbenga, Kayode, Onyima, 2014). This could have been the reason why professional teachers should be allowed to undergo training from institutions to enable them display competencies in the profession.

Competences in teaching according to Danner and Pessu (2013) is the ability of the teacher to combine and apply high level of knowledge, values, skill, capabilities, experiences and personal dispositions in an appropriate way towards accomplishment of assigned duties especially teaching. In determining the indicator of teacher competence. Huntly (2008) argued that competence is a relation between capabilities of an individual and the satisfactory accomplishment of appropriate tasks.

Cubukcu (2010) and Ilanlou and Zand (2011) classified competencies of a professional teacher into general and specialized competencies. The general competencies according to them involves the familiarization of teachers with developmental psychology of students and learning processes, teaching methodology and classroom management while specialized competencies involve provision of well-organized and orderly subject content, teacher mastery of subject content, keeping accurate and up to date record and giving students' feedback. Based on definitions from several purviews, Kunter et al. (2013) concluded that competence is the skills, knowledge, attitudes, and motivational variables that form the basis for mastery of specific situations which may offer route to understanding teacher success.

However, Ilanlou and Zand (2011) make a valid and important point when they stated in a research studies on the relationship between professional competencies of Iranian teachers and their perspectives about qualitative evaluation project that, there is need to reinforce teacher professional competencies to have a guaranteed students' achievement, extended knowledge and better learning. The components of deep knowledge about the content and structure of a subject content, understanding use of

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appropriate teaching materials and media and knowledge on the application of combination of knowledge, skills, values, attitudes, desires and motivation.

2.5.2   Bureaucracy and Effectiveness

In a purposeful organization with clearly defined goals and objectives, bureaucracy is an indispensable and universal phenomenon which functions in an administrative setting (Idiaghe, 2015; Kean, et al. 2017).   There are good reasons to expect bureaucracy to have both positive and negative relationships with school outcomes, as studies on bureaucracy in school have given two illustrations of bureaucracy as the dark and bright sides.   However, from the literature reviewed, research studies revealed that, both positive and negative features of bureaucracy may influence school variables like level of teacher trust, academic optimism, school performance and socialisation (Cerit, 2012; Lennon, 2010; Özdemir & Kılınç, 2014; Smith & Larimer, 2004).   So, it could be said that, positive and negative school bureaucracy is associated with that dimension of school effectiveness.

Thus, while some studies view bureaucracy as a contributory factor to shortfalls in schools; others perceive it as beneficial in management of wide range of problems making it easier for teachers to focus more on teaching (Bohte, 2001; Chubb & Moe, 1990; Hoy & Sweetland, 2001; Smith & Meier, 1994). However, Smith (2004) argued that, the nature of the relationship between bureaucracy and performance solely depends on its measure, therefore, existing empirical studies on this variable are not necessarily wrong but require further study.

To many (Berliner & Biddle, 1995; Bjork & Taylor, 1977; DiPaola & Hoy, 2001; Katzenbach & Zhan, 2010; Kimbrough & Todd, 1967; Mintzberg, 2013), bureaucracy is viewed as red tape, impersonal and highly rigid. For instance, Bohte (2001) in a study on the impact of bureaucracy on student performance in Texas schools using 350 central and school administrators involving principals, vice principals and teachers in schools to substantiate the contending logical claims on effect of bureaucracy using multiple regression analysis presented that, findings of the study supported the view of Chubb and Moe (1990) that bureaucracy has negative effect on student performance in reading, writing, arithmetic, and overall performance in scholastic assessment test.

Nevertheless, the knowledge about negative effect of bureaucracy on school remain tentative as the findings of this study does not reflect the entire story of the role bureaucracy plays in schools due to the fact that school effectiveness is a multi-dimensional concept; therefore, student performance only does not reveal other areas in which bureaucracy benefits school performance.

However, a bureaucratic organization has clearly stated rule that when fully implemented leads towards clarity of function, purposes and social conformity (Spring, 2008; Kilinç et al 2016). An enabling school therefore allows teacher solve problem and work together with one another in implementing school rules and designed procedures to bring about improvement and effective classroom practices. Bureaucracy features may not be same at all level in every school, positive or negative outcome may not be composed under the same factor (Hoy & Miskel, 2010). Idiaghe

(2015) in a study on bureaucratic administrative skills in post-secondary education system and national development in Nigeria, examined the practical and theoretical usefulness of bureaucracy in tertiary institutions. It was however concluded in the study that there is need to strengthen bureaucracy by developing employee's administrative skills in order to contribute to national development.

Hoy and Miskel (2010) posited that teachers could display professional autonomy, communicate internally with other colleagues, feel empowered and have sense of belonging when an effective bureaucratic structure exists in the school. This is evident in the submission of Koybasi et al. (2017) in their study on identifying factors influencing bureaucracy and professionalism in schools using a qualitative approach with group of male and female teachers using semi-structured interview, it was revealed that the interface between bureaucracy and professionalism prevailing in schools is integrated into issues like planning and implementation, hence inevitability of bureaucratic regulations cannot be denied in schools. In the same vein, (Kean, et al. (2017) in their study on teachers' perception of bureaucracy in Malaysia schools surveyed 384 secondary school teachers using a multi-stage stratified cluster random sampling techniques and found that, even though bureaucracy is highly centralized, it is an important matter regarding teacher commitment.

Even though reviewed literature designates studies that show the relationships between bureaucracy and school performance (Bohte, 2001; Kean, et al.; Kilinc, 2014; Krueathep, 2011; Smith & Larimer, 2004), study that examines a combination of these variables and shows their effects is not found in Kwara State, Nigeria. As a driving

force towards improving school effectiveness, this research is likely to provide important contributions to the field of education. This research aims to determine the effect of bureaucracy on school effectiveness, which is thought to be important variables in fostering school performance and improvement.

2.6   School Based Management and School Effectiveness

School Based Management, a paradigm shift towards reforming the management of education institutions around the world, has been established since 1960s with the aim of enhancing the quality of education through participative decision-making approach (Idris & Abdul Samad, 2008). This is done by putting operation of school in the hands of local community members, principal, teachers, students, parents and the school board committee representatives by complying with the specified policies, framework and regulations of the governing institution (Caldwell, 2008; Cheung & Kan, 2009). Therefore, the formation of SBM as a viable tool for promoting effective community participation has not only reduced the principal authority and responsibility in managing school policies and programmes but also bring the school management closer to all and sundry.

The participation of teachers and principals in SBM programs has strengthen their professional motivation thereby enhancing their sense of participation in school (Barrera-Osorio, Fasih, Patrings & Santibáñez, 2009). The perceptions of 234 principals in their assessment of performance of high secondary schools in a study on school-based management with or without instructional leadership revealed that the implementation of SBM have created a role whereby principals does not involve in

too much struggle or spend much time on administrative burden to solve acute problems (Lindberg & Vanyushyn, 2013). It therefore shows that instructional leadership and school management helps in creating continuous improvement.

Similarly, Valley and Daud (2015) in a study of the implementation of school-based management policy by principals in Kualar Lumpur secondary schools, the findings revealed that implementation of school-based management plays significant role in effective school vision and mission and likewise management of human resources. The involvement of teachers within the bounds of SBM ensues when they engage in different activities. These according to Mosoge and Van der Westhuizen (1998); Todd (2003); Cheng Lai-Fong (2004) include leading curriculum change in their classrooms to allow effective teaching and learning to take place, participating in professional development beyond what is provided by the system, developing collegiality, building a school community to enhance instructional goals of school and participating as members of the school committees, designing and implementing school-improvement plans and finally, establishing partnerships with community members beyond the immediate school community.

Fundamentally, Summers and Johnson (1996) posited that most literature on the effectiveness and success of SBM disregarded the effects on student academic accomplishments, either for the reasons that the advocates of SBM do not perceive academic achievement as a significant output measure or as a result of the believe that increased school discretion will improve students' learning. Consequent upon this, there is minute indication to support the idea that SBM can effectively increase student

performance. Even though there are very few quantitative research studies, the studies are not statistically rigorous, and the evidence of positive results is either weak or non-existent.

For instance, Khattri, Ling and Jha (2012) conducted a study on the estimation of the effects of school-based management on students' performance in Philippines in all schools in 23 districts using administrative data set of all public schools for a period of 3 years. The study tested whether schools that received early school-based management interventions attained higher average test scores than those that did not receive such inputs using school-level overall composite test scores in English, mathematics, and science. The study found that the introduction of school-based management had a statistically significant, although small, overall positive effect on average school-level test scores in 23 school districts in the Philippines.

In spite of implementation of this global reform, limited attention has been paid towards the assessment of the impact of SBM on school effectiveness, and as a result of this, there are no set of shared assumptions about the actual evaluation of SBM and its influence on school effectiveness (Brouillette, 1997). However, the main purpose of SBM is to bridge the gap between schools and the communities which they serve by contributing to the planning and providing supports for school activities.

The experience of SBM around the world and Nigeria in particular shows that, the effectiveness of the scheme could be achieved when there are resources such as improved infrastructure, more competent teachers, and adequate funds for running

costs, with the presence of committed community members to support schools towards enhancement of accountability and school improvement (Universal Basic Education, 2011). That is, school improvement can be attained if committee members leverage resources (kind or cash) not only from within their own communities but through access to public resources which can be channelled towards the management of schools.

Gamage (1996) posited that SBM can increase the responsiveness level of stakeholders in school which may in turn encourage community participation, teacher commitment and improve student outcomes. Similarly, Bandur (2012) in a study on the implementation of SBM on programmes in Indonesia schools revealed that SBM implementation enhances community participation and decision making, student achievement and improvement in schools. Further findings of Thida and Joy (2012) on the implementation of SBM in Cambodia primary schools shows that involvement of stakeholders in school management will influence the success of the school management and in turn improve transparency and accountability in education, with support by school stakeholders which comprises of principals, teachers, students, parents and other school support committee. Therefore, participatory decision making through school-based management is central to improvement of education quality in the school environment, culture and student achievement.

SBM is a reform adopted by many countries of the world to decentralize decision making towards enhancing community participation in responding to school problems and creating productive and effective school (Muslihah, 2015). Sharing decision

making at the school level among community member, parent, teacher and student will bring better management, satisfaction, accountability and overall improvement in educational outcomes (Ng and Chan, 2008; World Bank, 2007).

In Oman public secondary schools, SBM has been introduced as a policy to decentralize the authorities from central to the local schools. As shown in a study on the principals' view of SBM in Oman using a qualitative approach to gather data from principals, assistant principals, senior teachers and teachers by Al-Ghefeili and Hoque (2013), the participants considered SBM as a multifaceted and complex concept comprising many elements and these elements can be interpreted differently, have different emphasis and serve different purposes.

As reported by Ho (2005) in a study of the effect of decentralization on student performance in Hong Kong secondary schools, the role of school climate was examined as a mediating variable between decentralization and performance using students' morale and behaviour, sense of belonging and disciplinary climate. The findings revealed that school autonomy has no effect on student performance, but a significant impact exists on teacher participation on school governance and students' performance in mathematics.

Similarly, the study of Dellar (1998) examines the relationship between school climate and school preparedness to undertake restructuring in 30 secondary schools from Australia, findings reveals that school based management leads to a positive school climate in schools where stakeholders are successfully involved in the process of

decision making. Based on the submissions, this study hypothesized that there is a significant mediating effect of school-based management on school climate and effectiveness in Nigeria secondary schools.

2.7   Summary of Chapter Two

This chapter reviewed relevant past studies related to the variables in under investigation (school climate, bureaucracy, school-based management and school effectiveness). It highlighted the dimensions which were found suitable and adopted in this current study as prescribed by the theories put forward by scholars in the reviewed literatures. This was based on the fact that; several theories were used in previous studies, but this study aimed to confirm this theory in the context of Nigeria. This chapter also described previous research studies related to the variables. It examined the existing relationships among school climate, bureaucracy, school-based management and school effectiveness to extensively appraise relevant contributions and further substantiate claims on these aspects. Therefore, it is required that the study adopt methodology in order to support the hypothetical statements raised in this research study, thus, the next chapter discussed the procedure and methods used to guide this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1   Introduction

This chapter gives a summary of research paradigms giving a justification for the preferred and chosen paradigm. It describes the various research technique and provided justification for the method adopted in the study in order to achieve the proposed objectives and framework. The proposed framework was designed to scientifically quantify the direct effect of school climate, bureaucracy and effectiveness; as well as the indirect effect through school-based management in Nigeria. It discusses the different criteria used in selecting participants and collection of data, such as survey, sampling techniques, questionnaire administration with justification for choosing them.

Attention was focused on the procedure employed in gathering and analysing the data used in the course of conducting this study with pilot study for validation of the instrument. Specifically, it was grouped into various sub-sections, which include research paradigm, research design, population and sample size, sampling techniques, instrumentation, procedures for data collection and statistical method used for data analysis through the Statistical Package for Social Sciences and Structural Equation Modelling (AMOS).

Methodological Outline

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│                                 │
│      ┌─────────────────────┐    │
│      │  Research Paradigm  │    │
│      └──────────┬──────────┘    │
│                 ▼               │
│      ┌─────────────────────┐    │
│      │   Research Design   │    │
│      └──────────┬──────────┘    │
│                 ▼               │
│      ┌─────────────────────┐    │
│      │     Sample Size     │    │
│      └──────────┬──────────┘    │
│                 ▼               │
│      ┌─────────────────────┐    │
│      │ Sampling Technique  │    │
│      └──────────┬──────────┘    │
│                 ▼               │
│      ┌─────────────────────┐    │
│      │  Instrumentation    │    │
│      └──────────┬──────────┘    │
│                 ▼               │
│      ┌─────────────────────┐    │
│      │    Pilot Study      │    │
│      └──────────┬──────────┘    │
│                 ▼               │
│  ┌─────────────────────────┐    │
│  │Confirmatory Factor Analysis│ │
│  └──────────┬──────────────┘    │
│             ▼                   │
│      ┌─────────────────────┐    │
│      │   Data Collection   │    │
│      └──────────┬──────────┘    │
│                 ▼               │
│      ┌─────────────────────┐    │
│      │    Data Analysis    │    │
│      └──────────┬──────────┘    │
│                 ▼               │
│      ┌─────────────────────┐    │
│      │      Summary        │    │
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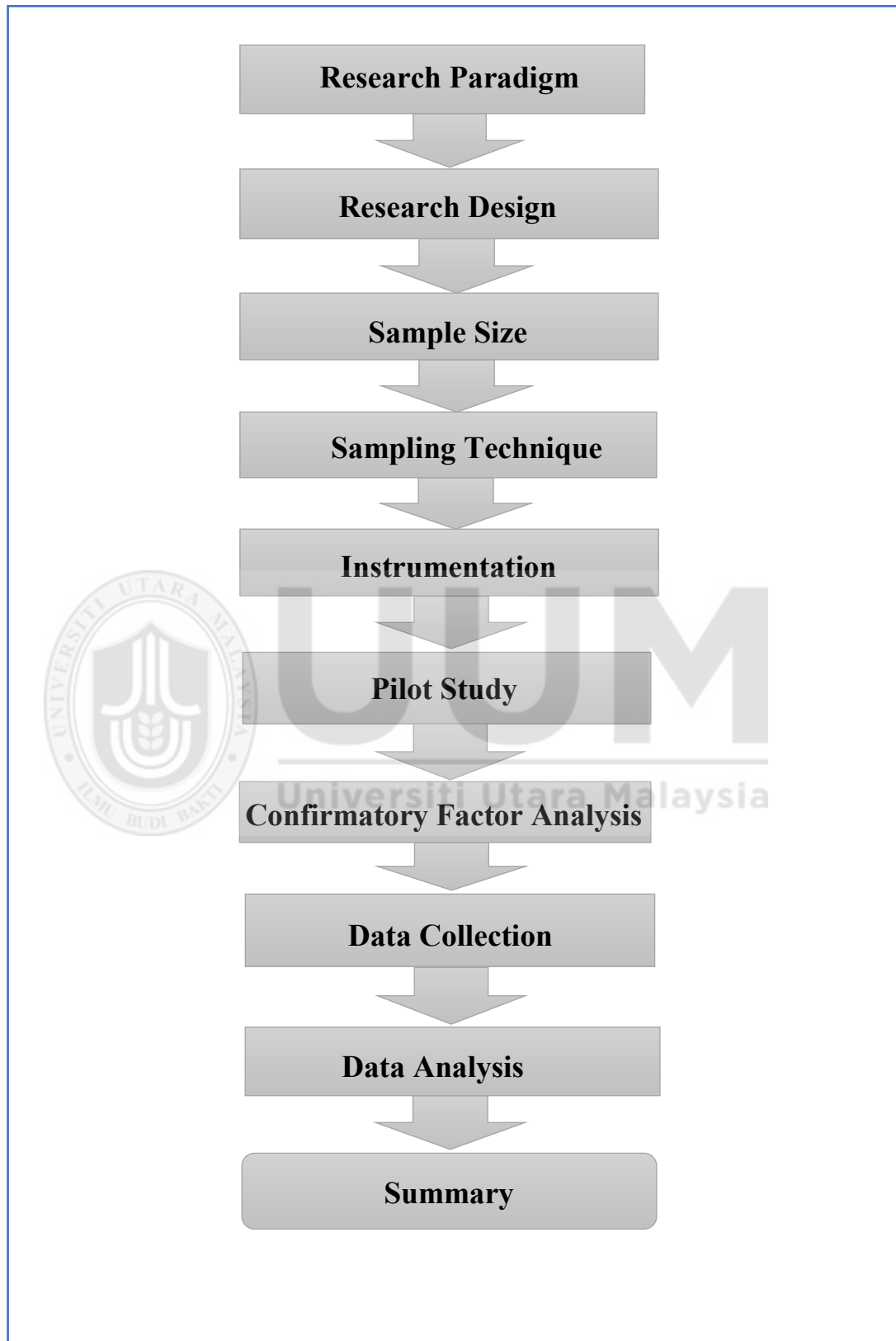
Figure 3.1. Outline of Chapter Three

The steps presented in figure 3.1 above shows the interrelation of the sections in every stage. The research philosophy of positivism presented in this study is characterized by several features to explain the underlying effects among variables and serve as guide for the choice of research methods and strategy. The quantitative research design method, which suggests the use of questionnaire, was used for the collection of data about underlying constructs as proposed in the theoretical model in this study. The targeted participants were secondary school teachers who were selected through stratified sampling technique. The collection of data for this study was by the use of questionnaire which was divided into four parts, to measure the demography and intended constructs.

The pilot study was carried out to ascertain the validity and reliability before conducting the final survey. All data collected were subjected to assessment through measurement model to further validate the underlying constructs and further assess the consistency of its measures. The statistical analysis was done through Statistical Package for the Social Sciences (SPSS) version 23 while the measurements and structural model were tested using Structural Equation Modelling (AMOS) version 23.

3.2 Research Paradigm

This segment plays a fundamental role on the philosophy and methodology in behavioural and social sciences. It is required to address principal issues in a research methodology and elucidates the logical approach related to the theoretical view of the world and the justification for the paradigm (McMurray, 2009). It is however

important to have a clear understanding of paradigm that is best suitable to guide a research method.

Generally, paradigm can be best described as a complete system of thinking with an established research traditions or philosophical framework in a particular discipline (Neuman, 2011; Collis and Hussey, 2009; Mouton, 1996). It is a rudimentary belief guiding researcher with an explicit way of looking at life (Babbie, 1995). Research studies about nature and world in social sciences can be traced to ontological (what and how), epistemological (nature of knowledge) and methodological (research process) assumptions (Creswell, 2009, Rubin & Babbie, 2010).

In behavioural and social science particularly education, there are three most important research paradigms, these are qualitative research which depends on collection of data through observation and in-depth interview, quantitative research which relies on collection of primary data, and mixed research methods through multiple forms. The root of this methods extended into various philosophical research paradigms. It has been summarised by into four different philosophical research paradigms consisting of positivism, interpretivism (constructivism), critical theory and realism paradigms (Cresswell, 2009; Bellamy, 2012).

In this present study of social science research, positivism may be applied as the point of departure for explanations of social world and inquiries of social phenomena; as it purportedly entails the procedures, trends, methods, generalizations, cause-and-effect

issues as applied to social sciences (Denscombe, 2010). A positivist is an objective analyst who deals with an observable social reality outside subjective experiences that will provide generalisations which can be linked to social world as comparable to that of the natural scientist (Babbie & Mouton, 2008).

Also, positivism accepts that, valid facts can only be produced through direct reflection and observation by the five senses; with the ability to measure and record what would be observed as knowledge. Observations in this sense refers to the acceptance of empirical facts as valid evidences as provided through the ability to see, smell, touch, taste and hear. Thus, it implies that, phenomena could be directly observed through observation or indirectly observed with the use of instruments with the confirmation of theory with the use of statistical methods to test hypothetical-deductive generalisations (Guba & Lincoln, 1994).

3.3 Research Design

As suggested by McNabb (2015), research design could be perceived as the background or plan that is used as a guide in gathering and analysing data for a study. It is knowledge of proof that allows the researcher draw inferences concerning causal relationship among the variables under investigation. This study employed the quantitative design for both data collection and analysis. Quantitative research involves study whose findings are mainly the product of statistical summary and analysis. Quantitative study of the survey type provided a numeric description of portion of the population. This allowed the researcher to obtain information from a group of samples drawn from the population to know their opinion towards a

phenomenon through a structured questionnaire administration. This followed the hypothetical-deductive method where hypotheses were formulated based on a review of literature. Data was collected from a sample of the population and analysed to confirm or disprove the hypotheses formulated in the study.

It is deductive in nature because it allows researchers draw inferences about characteristics of an entire population in an attempt to achieve objectives and generalize findings with the use of instrument (Cresswell, 2013; Harwell, 2011). The design for this study was cross-sectional survey which was studied at one particular time and not over several years to establish: whether bureaucracy has significantly influenced school based management, school climate has significantly influenced school based management, bureaucracy has significantly influenced effectiveness, school climate has significantly influenced effectiveness, school based management has significantly influence effectiveness; whether school based management functions as a mediating factor in relationship between school climate and effectiveness, and school based management does function as a mediating factor in relationship between bureaucracy and effectiveness. The design is considered appropriate because it makes it possible to gain basic insights about occurrence of a phenomena, situation, problem, attitudes or issues about this study on the mediating effect of school-based management on school climate, bureaucracy and school effectiveness in Nigeria secondary schools.

3.4   Population for the Study

This study was carried out in the public senior secondary schools in Kwara State, Nigeria. Nigeria has 6 regions which are categorized based on the geo-political zones of the North-East, North-West, North-Central, South-East South-South and South-West. The North-Central which is often referred to as the middle-belt shares boundary with all regions of the country, but out of all the 7 states in the central, only Kwara State shares international boundary with all the regions (East, North, South) and neighbouring countries. The state, created in 1967 by the head of state during the military regime with a population of 2,371,089 located in North Central geo-political zone of Nigeria with inhabitants who are Yorubas, Nupes, Barubas, Hausas and Fulanis spread across the sixteen Local Government Areas (LGA) of the State, each with an endowed set of languages and its own elected Local Government Council.

The State shares boundaries with Niger States to the North; Oyo, Osun, Ekiti States to the South; and Kogi State to the East. It also maintains an international boundary with the Republic of Benin to West. Education in the State however receives priorities with several primary and secondary schools including higher institutions like polytechnics technical colleges, midwifery and nursing colleges among others. Specifically, there are 7,533 teachers across 346 government owned secondary schools in all the 16 LGAs of the State (see Table 3.1 below).

Collection of data in a fairly homogeneous environment is expected to further facilitate the control of plausible impacts arising from uncontrollable external variables (Alvi, 2007). Population for this study therefore consisted of all the existing public

secondary school teachers in Kwara State. The researcher feels teachers are suitable because their operation in the school environment is more elaborate. They are intermediary between the community, school head and the students and deal directly with both human and material resources available in the school.

The researcher therefore chose teachers represented from all districts as respondents for this study, this is in line with Freiberg (1998) when he affirmed that perceptions of teachers are fundamental in observing learning environment and assessing educational excellence. Based on these criteria, teachers have much influence in creating and maintaining effectiveness of the school as previous researches on these same variables identified teachers as suitable respondents (Balkar, 2015; Inuwa & Yusof, 2013).

Table 3.1

Number of Secondary schools/Teachers in Kwara State, Nigeria.

S/N	Local Government	No of Schools	No of Teachers
1	Asa	23	458
2	Baruten	17	164
3	Edu	19	245
4	Ekiti	15	166
5	Ifelodun	44	605
6	Ilorin East	28	972
7	Ilorin South	22	1,241
8	Ilorin West	28	1,405
9	Irepodun	40	644
10	Isin	17	189
11	Kaiama	9	89
12	Moro	21	313
13	Offa	14	379
14	Oke Ero	14	145
15	Oyun	19	340
16	Pategi	16	178
	Total	346	7,533

Source: Kwara State Ministry of Education and Human Capital Development, (2016)

3.5   Sample Size

Applying sample size in SEM raises a lot of doubts, this may be due to the fact that sample size in SEM is determined based on the characteristics of a model such as the communality level across all variables and the degree of factor determinacy which may affect the accuracy of the estimate parameter and fitness of statistical model (Wolf, Harrington, Clark, & Miller, 2013). As posited by Awang (2015) and Nicolaou and Masoner (2013) there is no exact answer to how many respondents required when

using SEM, due to the differences in research objectives, population characteristics and number of constructs to be employed in a model. There is therefore no consensus on the appropriate number of sample size for SEM as the properties of all samples varies.

However, Chan, Lee, Lee and Allen (2016) stated that in a general note, a low sample size may result to instability in the covariance matrix which may cause sampling error, therefore, statistical indices will perform adequately and yield significant result with interpretable value when the sample size is more than 200 participants. Hair, Ringle and Sarstedt (2013) and Wolf et al. (2013) all stressed that a larger sample size is required for model with more indicators per factor to have a proper representation of the population, larger factor loadings and proper convergent.

Furthermore, in the selection of sample for SEM, Hair, Black, Babin, & Anderson (2010) stressed that a small sample size is unreliable, therefore, suitable sample size for a particular Model should be based on the complexity of the model and commonalities in each factor. The Rule of Thumb thus recommended a minimum sample size of 300 for models with 7 or fewer constructs with lower communalities and multiple under-identified constructs.

For this study, an established formula provided by Yamane (1967) and used by Israel (1992) was adopted in selecting sample size. The guidelines followed as illustrated thus:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n refers to the sample size

N is the population size

e refers to the level of precision.

Applying this formula to this study give the equation below:

$$n = \frac{7,533}{1 + 7,533(0.05)^2} = 379$$

In the equation above, the sample for the population of 7,533 as suggested by Yamane (1967) sample size formula is 380. This is also in line with the population and sample size as suggested in the sampling table (see Appendix). However, the sample size was increased from 380 to 400 to prevent any problem associated with data collection and enable the researcher to cater for wastage, invalid and low responses and missing values.

3.6   Sampling Technique

The process of determining the sample size and method is very important. Singh and Masuku (2014) submitted that, in carrying out an investigation about an entire group, a representative taken should be able to draw a correct conclusion about a particular

group, that is, a subset of individuals from that population should be drawn to be able to access the characteristics of the entire population. Considering the diversity of the people by their language, ethnicity, and district; stratified sampling is suitable if the population is heterogeneous in nature.

According to Singh and Masuku (2014), stratification is the technique by which the entire population is heterogeneous and divided into subgroup/strata where each stratum is then sampled as an independent sub-population, out of which unit sample can randomly be selected. This is necessary in order to minimize any partiality in the process of selecting the sample and ensuring that teachers in all the three senatorial districts of the State are equally represented. Kwara State is divided into three senatorial districts (South, Central and North). The South comprises of seven LGAs, central has four while the North has five.

Firstly, the study will adopt a stratified random sampling of the proportionate method. The population was divided into sub-population in order to ensure that all segments are appropriately represented. This sampling was suitable due to the heterogeneous nature of the population in terms of their geographical location and to enable the researcher select randomly from each stratum using proportionate technique to be able to draw from each district according to the number of teachers and allow the population to receive proper representation within the sample.

Kwara State, being the only entry-way to both northern, western and southern regions of the country comprise of diverse indigenous groups with different tribes and culture.

The state has indigenous inhabitants who are Yorubas that migrated from the Southern part, Nupes and Barubas from the Central, Hausas and Fulanis from the Northern region; spread across the sixteen Local Government areas in the State with different languages and cultural and social values, and religion beliefs under the control of a Local Chairman. Presently, the sixteen local government areas spread across the geographical districts in the State have a total of 7,533 teachers who constitute the population for this study. The targeted population therefore was teachers of all the senior secondary schools spread across the 3-senatorial district of the state. Respondents were picked from each of the districts for the study in order to capture the demographic of the entire population (See figure 3.2).

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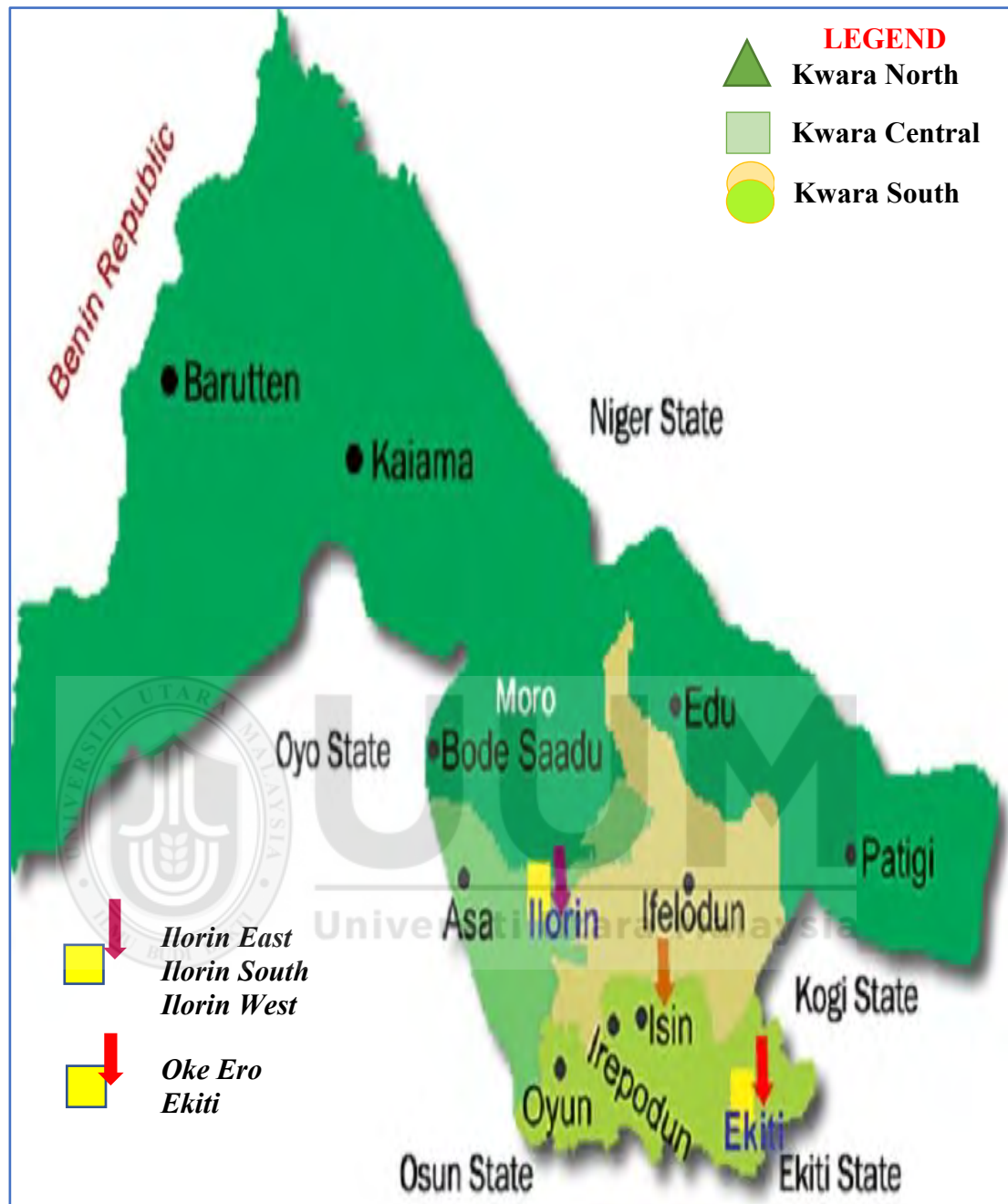
Figure 3.2. Federal senatorial district map of Kwara State, Nigeria.

However, stratified random sampling could be drawn from each stratum based on a specified percentage and without any regard to any specific percentage. The proportionate quota sampling was employed to be able to divide the population into a smaller group so that samples can be captured from each stratum for proper

representation (Central, North and South) in the State.   This is in line with the submission of Alvi (2016) which stated that, proportionate quota sampling will enable researchers to draw participants from each division as regards the number of elements in each stratum.   This was also justified by Unachukwu (2010) as posited that population made up of various sub-groups or attributes are truly represented in the sample when stratified, and since each stratum is represented, it makes the sample a true representation of the population.

Following the proposed sample of 380 respondents, teachers were selected based on the percentage proportion of the population in each stratum to represent the sample. Sample are classified per three districts of north, central and south for equal representation; the sample size was therefore divided by the percentage of each stratum specified as; 13% of teachers from the north constitutes 50 respondents, 56% of teachers from the central constitutes 214, while 31% of teachers from the south constitutes 116 of the sample.   This will make up a total of 380 respondents.

Finally, the systematic sampling technique was adopted using a 1-in-k systematic sample with a random start.   This process required the assistance of the principals of various schools; information was given to them on how to assign number to every element in the population of the entire school.   After which the sample size for each of the population of the selected districts has already been determined by the researcher, the entire population was then divided by the sample size in order to arrive at a proportionate size which permits every member of the population to be selected.

The method then required the researcher to randomly select samples based on a system of intervals in a totalled population. The first respondent is randomly picked from the population and subsequently, every n'th was selected from that point onward at regular intervals until the required figure is met (Sekaran & Bougie, 2010b; Zikmund, 2010), see table below.

Table 3.2

Population and Sample for Survey

Districts	No of Teachers	No of respondents to be selected per District	No of Sample Respondents (District)
Kwara North	989 (13%)	987/7533x380	50
Kwara Central	4,242 (56%)	4242/7533x380	214
Kwara South	2,302 (31%)	2302/7533x380	116
Total	7,533		380

3.7   Instrumentation

The purpose of this research study was to investigate the effect of school climate and bureaucracy on school effectiveness via school-based management as the mediator among secondary school teachers in the context of Nigeria. This study administered questionnaires to teachers in Kwara State secondary schools. The questionnaire had been divided into five parts; the first part consisted of details of demographic characteristics of gender, age group, qualification and teacher working experience in

the study, while the other parts consisted of items measuring all of school climate, bureaucracy, school-based management and school effectiveness variables.

Moreover, all items measuring the variables in this study except for the demographic variable were adapted from various sources with little modifications which makes the instrument slightly differ from their original forms to be able to fit the scope of the current study. Specifically, the adaptation made for this study was to remove those items that does not fit the context of this study from the original questionnaires and modify remaining items that were retained. However, modifications were made on the remaining items in terms of wordings and layout for clearer and easy understanding to suit the teachers' context. The appropriateness of language was also checked to avoid bias in responses and double barred questions that can lead to confusion; and to enable respondents make quick decisions in choosing among the several alternatives.

Similarly, the questionnaire was designed in five sections which consisted of question items related to each construct on a 7-point Likert scale, with demographic variables in the first section, which was slightly different from the initial scales which were on 5 and 4 Likert scales. The final instrument consisted of 67 questions in all for the participants to answer. A brief introduction and instructions were specified on the first part to explain the purpose of the study and also guide them on how to answer the questionnaire.

Likert Scales was used to indicate and reflect participants' perception. While there are categorical numerical scale ranging from three-point, five-point, seven-point and ten-

point which is the highest rating scale; the choice for selecting scale depends on how researcher intends to rate the intensity of participants' opinion (Kumar, 2005). Unarguably, the highest scale of ten-point allows for more discrimination as compared to other scales, however, responding to it is more complicated for participants to answer (Vavra, 1997). Therefore, seven-point is more appropriate measure in this study as it provides less-skewed distribution and afford participants with more options to their responses. This measure is substantiated by Sauro and Dumas (2009) to be robust and reflects respondent true evaluation (see figure 3.2).

1	2	3	4	5	6	7
ED	MD	SD	N	SA	MA	EA
Entirely Disagree	Mostly Disagree	Strongly Disagree	Neutral	Strongly Agree	Mostly Agree	Entirely Agree
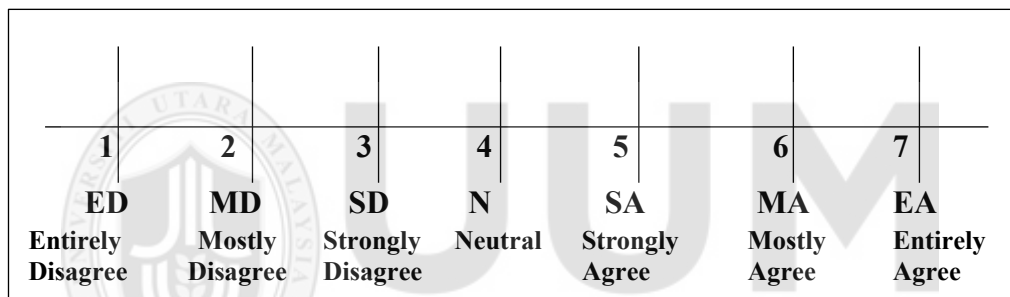
Figure 3.3. Seven-Point Likert Scale

3.7.1 Measurement of School Climate

School climate which is an exogenous variable in this study was measured using a questionnaire titled School Climate Questionnaire specifically designed for the study of school climate by the researcher as adapted from Saskatchewan School Climate Scale (SSCS) developed by Ruane (1995) based on Taguiri's (1968) organizational climate framework (see appendix 5). The questionnaires captures the comprehensive review of school climate research as found within the framework which constitutes fundamental elements of school environment (Ecology, Milieu, Social System and

Culture) as other instruments developed especially by Croft and Halphin (1962) which has been used most frequently only measure characteristics of the social system and culture dimension in Taguiri's classification. This instrument initially contained an item of twenty-five questions in four subscales which was developed to describe a school.

Validity evidence was provided in previous studies with the internal consistency of the instrument established with an Alpha coefficient of 0.77. The SSCS questionnaire was modified to fit the Nigerian context; all factors were same as the original scale except for sub-scale items, some of which were removed ("there are enough computers and computer software, parents help out by volunteering for school jobs, gender stereotyping is evident" among others), as they were adjudged not to be applicable to Nigerian teachers.

Although, the initial instrument contains questions that range from the positively worded to the negatively worded items some of which were changed to positive wordings, items having low response rate and those which does not fit the research context of this study were dropped from the subscales leaving the final items at 18 in order to describe the school environment. Teachers specified the extent to which they agree to all statements using a 7-point Likert Scale of Entirely Disagree (1), Mostly Disagree (2), Somewhat Disagree (3), Neither Agree nor Disagree (4), Somewhat Agree (5), Mostly Agree (6), and Entirely Agree (7). This scale will indicate participants' opinion or view by evaluating their level of agreement or disagreement

to each statement. Survey items related to school climate were re-organized, validated and considered suitable in the context of this present study (see Table 3.3).

Table 3.3

Measures of School Climate

Dimensions	No of Items Adapted	Operational Definition of Construct	Source
Ecology	4	School climate refers to fundamental aspect of school environment such as facilities, material and equipment.	Ruane (1995)
Milieu	5	Refers to the essential responsibility of every members of the school.	
Social System	5	It refers to the functional structure and school composition	
Culture	4	Refers to operational pattern of the day-to-day activities that evolves in the school	

3.7.2   Measurement of Bureaucracy

The school bureaucracy instrument, also an independent variable in the study, was adapted from School Organization Inventory (SOI) which was developed by MacKay and Robinson (1966) to measure the bureaucratic structure in schools. The SOI which was first conceived by Hall originally consisted of thirty-eight Likert-type items which provide for measures of Weber dimensions of bureaucracy under investigation. All factors were same as the original, however, some items in the sub-scales ("teachers are hired because they have attractive personalities, there is one way to do job – the principal's way, red tape is often a problem in getting a job done in this school among

others) were removed from the final instrument as they do not fit the context of this study.

The questionnaire which has been modified comprised of four factors (division of labour, hierarchical rules, impersonality and competence) having 20 items statement. Teachers are expected to indicate the extent to which the statement characterizes behaviour in their schools using a 7-point Likert Scale ranging from Entirely Disagree (1) to Entirely Agree (7). Although, this instrument was originally developed by Hall (1963) to measure degree of bureaucracy in organizations, it was selected due to the acceptable reliability of the items which had been ascertained at a co-efficient value of 0.83 (Hall, 1963). The final items adapted in this study was presented in table 3.4 (see also Appendix 5).

Table 3.4

Measures of Bureaucracy

Dimensions	No of Items Adapted	Operational Definition of Construct	Source
Division of Labour	4	Assigning teaching roles and schedules to teachers based on specialization.	
Rules and Hierarchy	7	Refers to structured regulations and framework required for school practices.	MacKay and Robinson (1966)
Impersonality	5	Equality among members of the school.	
Competence	4	Refers to the skills and capabilities of teachers in the school.	

3.7.3 School Based Management Questionnaire

School based management questionnaire was adapted from the work of Bandur (2008) who studied the state school system in the New South Wales. The questionnaire was however revised to appropriately suit the context of this study and was designed to be completed by teachers only. The revised instrument consisted of 10 items statement which were anchored by seven-point Likert scale where 1 stands for entirely disagree, 2 mostly disagree, 3 - somewhat disagree, 4 - neither agree nor disagree, 5 - somewhat agree, 6 - mostly agree, and 7 - entirely agree. The coefficient alpha value for the reliability was 0.84 as reported by (Bandur, 2008).

3.7.4 School Effectiveness Questionnaire

The researcher adapted a school effectiveness index developed by Hoy & Ferguson (1985); Teaching and Learning International Survey (TALIS) (2001) based on 4 factors of effectiveness. The instrument was originally developed by Mott as a measure of effectiveness in hospitals and was however adapted and used in schools for determining its effectiveness by Miskel. The components of School Effectiveness Index were suitable for to measure productivity and adaptation to environment, while items constructed under as a measure of committed teacher behaviour and spirit of faculty were found to reflect the extent to which teachers enjoy sense of satisfaction and accomplishment in their work and therefore suit the constructs of cohesiveness and commitment under school effectiveness.

Moreover, the validity of the instrument has been ascertained through studying of comprehensive high schools with several factors of school effectiveness as well as

experts' assessment and the reliability were reported at alpha .92 (Hoy & Ferguson, 1985). Teachers were expected to thick the item that best suits the situation in their schools ranging from 7-point Likert Scale of Entirely Disagree (1), Mostly Disagree (2), Somewhat Disagree (3), Neither Agree nor Disagree (4), Somewhat Agree (5), Mostly Agree (6), and Entirely Agree (7).

Table 3.5

Measurements of School Effectiveness

Dimensions	No of Items Adapted	Operational Definition of Construct	Source
Productivity	6	Teacher progress in school	TALIS Index (2001) Hoy and Ferguson (1985)
Adaptation	4	Teacher reaction to school demand	
Cohesiveness	4	Predisposition to remain united in pursuance of school goal	
Commitment	5	Pledge to service and loyalty to school.	

Therefore, reliability tests of internal consistency (Cronbach's alpha) were reported as follows:

- School climate questionnaire: The internal consistency of scale was 0.77 and 0.85 (Ruane, 1995).

- Bureaucracy: Cronbach's alphas of the scale at 0.83 (Hall, 1963).

- School Effectiveness: Cronbach's alpha correlation coefficient for the scale was 0.92 (Hoy & Ferguson, 1985).

- School Based Management: Alpha coefficient for the scale was 0.84 (Bandur, 2008)

3.8   Pilot Study

A pilot study is an initial investigation carried out to assess the feasibility, time and cost towards determining an appropriate sample size and improve upon the proposed study prior to the conduct of the real study (Hazzi & Maldaon, 2015). Pilot is a crucial aspect that the researcher needs to consider before carrying out the actual study, so as to give the researcher opportunity to further refine the instrument. Prior to the main study, a pilot test was conducted using 30 secondary school teachers from 10 schools that are not part of the study. One hundred questionnaires were distributed as sample size for the pilot study only 90 were returned. This is required to be able address any problem early, and also check the validity, reliability and precision of the data. Johanson and Brooks (2010) reported that pilot is required when constructing a new scale or revising an existing scale to ensure that clear and appropriate language is used; errors are eliminated as well as estimate response rate and the feasibility of the study. This therefore entail both validation process as well as the reliability.

3.8.1   Validity of the Instrument

Basically, different instruments are often used for data collection that is why validity is very fundamental in research, it is important for researcher to substantiate their findings through the process of validation in other to have a quality research. Validation is a criterion used in research to enable a researcher to measure the quality and acceptability of the instrument in order to ascertain whether the supposed instrument is evaluating what it purports to evaluate (Lameck, 2013; Thatcher, 2010; Zohrabi, 2013). According to Bolarinwa (2015), questionnaire validity can be established through panel of experts with the use of survey in the form of field test in

order to investigate how well a given measure relates to the criterion. The methods used in the validation of the instruments of school climate, bureaucracy, school-based management, and school effectiveness questionnaires include; content validity, face validity and construct validity.

3.8.1.1   Content and Face Validity

Validity was carried out to establish the appropriateness and relevance of the items of the questionnaire. This is consistent with the submission of DeVon et al., 2007 and Polit and Hungler (1999) that, content validity specifies and reflects the content of a complete range of attributes under study and is usually undertaken by seven or more experts. Face validity indicates the questionnaire appears to be appropriate to the study purpose and content area. It is the easiest validation process to undertake but it is the weakest form of validity. It evaluates the appearance of the questionnaire in terms of feasibility, readability, consistency of style and formatting, and the clarity of the language used (DeVon et al. 2007). Thus, face validity is a form of usability rather than reliability.

To ascertain content validity of the questionnaires, the researcher clearly defined the framework of school climate, school bureaucracy and school effectiveness by seeking expert opinion. Haven established the research framework, the questionnaires were purposely sent to chosen experts in the areas of educational management, measurement and evaluation. Some of them are associate professors and senior lecturers from university of Ilorin, Nigeria; including the researcher supervisors who

have reviewed the draft items on the questionnaire in order to ensure its consistency with the framework.

Each reviewer individually assesses the relevance of the items on the questionnaires to the study's framework. The study's purpose, item wording, phrasing and question construction, clarity of questions and length of the questionnaire were checked to know whether they are framed in a way that will yield better response rate. Some items on the questionnaire were reworded for better clarifications to suit the context, while some ("The noise level is too high, students have common area where they can visit, most visitors comment favourably on the staff room, learning is supported in the home, former students visit with teachers and students") were dropped amongst others following the experts' opinion. The initial instrument has an inconsistent rating scale which was reviewed to a 7-points scale of entirely disagree '1' to entirely agree '7' to measure all items.

In determining the face validity of the questionnaire, 30 teachers from 10 secondary schools were randomly selected to complete the questionnaire to ascertain the clarity of wordings, know whether the form and pattern are suitable for targeted audience, and also the likelihood that the target audience would be able to understand and answer the questions. The opinions, remarks and suggestions of experts were sought and used to improve the items of the questionnaire.

3.8.1.2   Construct Validity

Construct according to Jayasinghe-Mudalige, Udugama and Ikram (2012) are those conceptual terms that cannot be measured directly except with observable characteristics referring to the underlining constructs.   The degree to which the indicators of a construct relate to the relevant theory and accurately measure the concept under study is referred to construct validity. Awang (2015); DeVon et al. (2007) and Jayasinghe-Mudalige et al. (2012) submitted that construct validity is achieved when the Fitness Indexes for a construct attained the required level of significant. That is why Hair et al. (2010) suggested the use of at least one fitness indexes from each category of model fit of Incremental, Parsimonious and Absolute Fit.

To assess the construct validity of this study towards ensuring the measured items reflect the theoretical latent construct they are designed to measure, the fitness indexes was examined from the measurement model, the obtained result was compared to the required level to ensure the indexes obtained achieved the required level. This can be adjudged through components of convergent or discriminant validity. In this case, convergent validity assesses the level at which items that measures the same concept are related. In other words, it refers to whether items of a variable are suitable to measure that variable.   Wang, French and Clay (2015), the extent to which independent measures of the same trait are correlated (Byrne, 2001).

However, Fornell and Larcker (1981) suggested Average Variance Extracted (AVE) above .50 as a satisfactory threshold for convergent validity. The high correlation

signifies that the scale is suitable for the measure of the construct (Hair et al., 2010). According to Holmes-Smith (2001), convergent validity is attained when the factor loading is considerably differing from zero. Then, convergent validity for the measurement model is achieved when amount of variance extracted by a construct exceed the values of 0.50. Therefore, Fornell and Larcker (1981) suggests that, significance indicator for convergent validity value of AVE above 0.50 was an acceptable threshold.

Additionally, construct validity can be assessed through the discriminant validity. Discriminant validity is the level to which two conceptually similar concepts are dissimilar. In this case, summated scale is correlated with a related one but conceptually distinct measure (Hair et al., 2006). This can be calculated by matching the AVE and the square of the correlation between the constructs. On the level of acceptability, if the AVE of the constructs surpass square of correlations, discriminant is satisfactory.

3.8.2   Reliability of the Instruments

Once the validity procedures were completed, the reliability of the instrument was ascertained through the test of internal consistency reliability of Cronbach's alpha coefficient. Internal consistency examines the inter-item correlations within an instrument and indicates how well the items fit together conceptually (DeVon et al., 2007).

In addition, a total score of all the items is computed to estimate the consistency of the whole questionnaire. Internal consistency is measured in two ways: Split-Half reliability and Cronbach's alpha correlation coefficient. In Split-Half reliability, all items that measure the same construct are divided into two sets and the correlation between the two sets is computed. Cronbach's alpha is equivalent to the average of all the possible split-half estimates and is the most frequently used reliability statistic to establish internal consistency reliability (DeVon et al. 2007).

Cronbach's alpha was computed to examine the internal consistency of the questionnaire. If an instrument contains two or more subscales, Cronbach's alpha should be computed for each subscale as well as the entire scale (DeVon et al. 2007). Therefore, Cronbach's alpha was computed for the revised school climate school bureaucracy, school-based management and effectiveness questionnaires after construct validation to determine if the questionnaire is consistently reliable.

Although, opinions differ about the ideal alpha value, the coefficient alpha values range from non-to perfect reliability (0-1). Many experts suggested an acceptable value of coefficient above .70 as considered to be "acceptable" reliability, above .80 "good reliability", and above .90 to represent "excellent" reliability (DeVon et al., 2007; Sekaran & Bougie, 2010a) However, the Cronbach's Alpha value for all items were computed using SPSS 23 for endogenous, exogenous and mediating variables. As shown in the table below, results of the Crobach's Alpha value were above .70 which is considered acceptable (see Table 3.6).

Table 3.6

Reliability of Scales and Sub-scales

Construct	Sub-Scale	Alpha Coefficient	No of Items
School climate	Ecology	.854	4
	Milieu	.896	5
	Social System	.849	5
	Culture	.801	4
Total Scale		**.935**	**18**
Bureaucracy	Division of Labour	.792	4
	Hierarchy/Rules	.913	7
	Impersonality	.894	5
	Competence	.899	4
Total Scale		**.936**	**20**
School-Based Management		**.848**	**10**
School effectiveness	Productivity	.920	6
	Adaptation	.842	4
	Cohesiveness	.772	4
	Commitment	.926	5
Total Scale		**.953**	**19**

3.9 Data Collection

The research methods employed in this study is a quantitative research of the survey type, thus, data collection tools are questionnaire surveys derived from two sources; a sample survey and pilot testing. Data collection for this study was done through two sources: first, it sorted for statistical information on teachers in Kwara State from the Ministry of Education and Human Capital Development (MoEHCD); secondly, the study utilized four (4) standardized questionnaires as instrument.

The questionnaires were divided into five sections, the first part of the instrument comprised of five items demographic related questions which focus on gender, age group, highest educational qualification, years of teaching experience, and the nature

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of employment. Other four sections measured the school climate, bureaucracy, school-based management, and effectiveness in Kwara State secondary schools.

However, these questionnaires were used to collect data from a large representative sample (secondary school teachers in Kwara State). The instrument was personally administered to respondents with the help of two research assistance and a letter conveying the main purposes of conducting this study. The questionnaires were distributed among 400 teachers in secondary schools across Kwara State, Nigeria to be able to generalize the findings on the entire population.
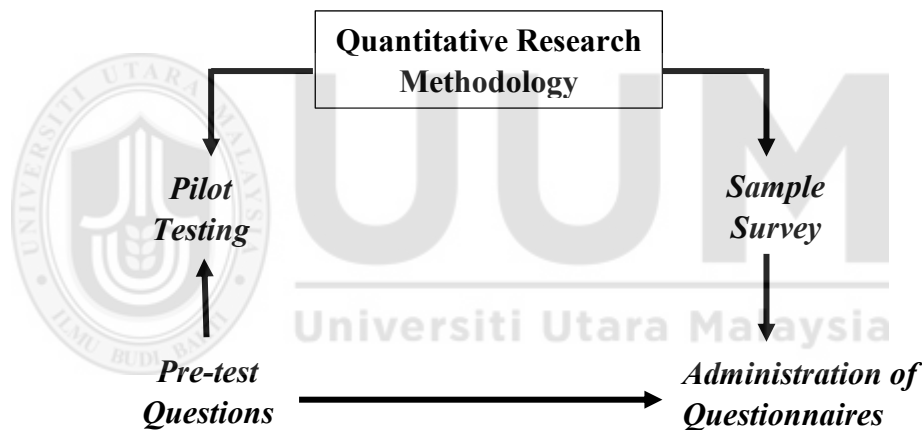
Figure 3.4: Data Collection Techniques

3.10   Data Analysis

The Structural Equation Modelling (SEM) was applied in this study to analyse the interrelationships among school climate, bureaucracy, school-based management and effectiveness by employing the combination of quantitative data in determining the correlational and causal-effect of the latent constructs. SEM is considered as a second generational statistical technique which is suitable for this study because it is efficient

and flexible in taking confirmatory approach to theory, analysing the inter-relationships and path analysis among multiple variables simultaneously, allows for pictorial modelling of constructs for clearer conceptualization of theories, and also provide a convenient way to describe the latent constructs of an observed variable under study (Awang, 2015; Byrne, 2001; Hair et al., 2013).

SEM is a technique which uses various types of models to depict relationships among observed variables with the goal of testing a theoretical model hypothesized by a researcher. This allows various theoretical models to be tested in SEM to understand how sets of variables define constructs and how these constructs are related to each other (Schumacker & Lomax, 2004). The early development of SEM was derived from the work of Karl Jöreskog and his associates and regarded as one of the most important and influential statistical revolutions (Pearl, 2012).

SEM was adopted in this study for four reasons. First, SEM is able to estimate and test the relationships among constructs. Second, SEM is capable of assessing and correcting for measurement error, as ignoring measurement error could lead to bias in estimating parameters. Third, SEM allows for the use of multiple measures to represent constructs. Fourth, SEM takes a confirmatory, rather than an exploratory, approach to the data analysis (Byrne, 2001; Schumacker & Lomax, 2004). Analyses was ran using the Analysis of Moment Structures (AMOS Version 23) software program. In preparation of data for the analysis, data was checked and screened for missing values, outliers, and normality distributions according to the guidelines provided by Hair et al. (2010) through version 23.0 of the SPSS followed by Structural

Equation Modelling Analysis through Version 23.0 of Amos Graphics (See Figure 3.4

and also Table 3.7 below).

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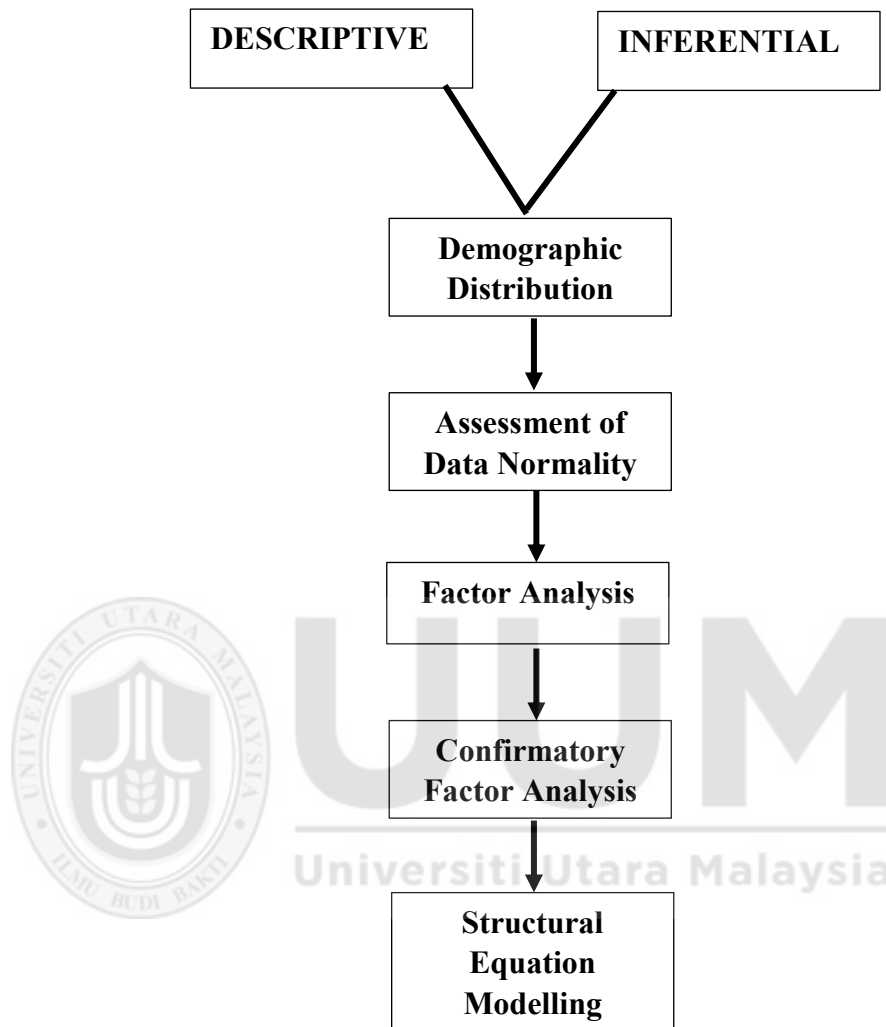
Figure 3.5: Data Analysis Flow Chart

The data analysis was done using two statistical packages of SPSS and AMOS. These

was done through the process of organizing data gathered from the respondents.

Initially, the demography of respondents was analysed followed by the screening of

data and assessment of normality of the distribution and factor analysis. This is to

ascertain that the measures are true representative of their respective constructs. This

was however subjected to confirmatory test through the CFA, followed by the SEM

using AMOS.

Table 3.7

Technique for Data Analysis for the mediating effect of school-based management on school climate, bureaucracy and school effectiveness in Nigeria secondary schools.

S/N	Research Objectives	Research Questions	Hypotheses	Analysis
1	To examine teachers' perception towards school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools.	What are the teachers' perception towards school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools?	---	Descriptive Analysis (SPSS)
2	To examine whether the constructs of school climate, bureaucracy, school-based management and school effectiveness are valid, reliable; and meet SEM's model-fit indices minimum requirements.	Are the constructs of school climate, bureaucracy, school-based management and school effectiveness valid, reliable; and meet SEM's model-fit indices minimum requirements?	---	Principal Component Analysis Confirmatory Factor Analysis (SPSS)
3	Examine whether bureaucracy significantly influence the school-based Management in Nigeria secondary schools.	Does Bureaucracy significantly influence school-based management in Nigeria secondary schools?	There is no significant effect of bureaucracy on school-based management in Nigeria secondary schools.	Structural Equation Modelling (SEM)

Table 3.7 continued

4	Examine whether school climate significantly influence school-based management in Nigeria secondary schools.	Does school climate significantly influence school-based management in Nigeria secondary schools?	There is no significant effect of school climate on school-based management in Nigeria secondary schools.	Structural Equation Modelling (SEM)
5	Examine whether bureaucracy significantly influence effectiveness in Nigeria secondary schools.	Does bureaucracy significantly influence effectiveness in Nigeria secondary schools?	There is no significant effect of bureaucracy on effectiveness in Nigeria secondary schools.	Structural Equation Modelling (SEM)
6	Examine whether school climate significantly influence effectiveness in Nigeria secondary schools.	Does school climate significantly influence effectiveness in Nigeria secondary schools?	There is no significant effect of school climate on effectiveness in Nigeria secondary schools.	Structural Equation Modelling (SEM)
7	Examine whether school-based management on school effectiveness in Nigeria secondary schools.	Does school-based management on school effectiveness in Nigeria secondary schools?	There is no significant effect of school-based management on school effectiveness in Nigeria secondary schools.	Structural Equation Modelling (SEM)
8	Examine whether school-based management functions as a mediating factor in relationship between bureaucracy and effectiveness in Nigeria secondary schools.	Does school-based management functions as a mediating factor in relationship between bureaucracy and effectiveness in Nigeria secondary schools?	There is no significant mediating effect of school-based management on the relationship between bureaucracy and effectiveness in Nigeria secondary schools.	Structural Equation Modelling (SEM)

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Table 3.7 continued

| 9. | Examine whether school-based management do function as a mediating factor in relationship between school climate and effectiveness in Nigeria secondary schools. | Does school-based management do function as a mediating factor in relationship between school climate and effectiveness in Nigeria secondary schools? | There is no significant mediating effect of school-based management on the relationship between school climate and effectiveness in Nigeria secondary schools. | Structural Equation Modelling (SEM) |

3.11   Summary of Chapter Three

This chapter begins with the discussion of various philosophical view and methodological approaches employed to empirically examine and achieve the objectives and testing the hypotheses predicted in the framework as discussed in the previous chapters. A positivist paradigm was chosen as foundation for this study to be able to generalize the findings to the entire population. Thus, the section explained the research paradigm and design adopted, followed by the population which comprises of all secondary school teachers in Kwara State, detailing the number of teachers based on each district with justification on how sample would be selected from the entire population. The standard used in selecting sample size was illustrated and established through Yamane (1967) formula and likewise the sampling procedure.

The instrument utilized in generating data from respondents were discussed, validated to ensure its relevance, and further tested to ensure its reliability and suitability in the context of this present study. The procedure required to obtain and analyse data from

the designated questionnaire was explained in the section to proffer appropriate understanding of the method used in the course of administration of instrument to respondents.

Finally, the technique and statistical treatment used in analysing data as applied in this study to be able to estimate and test effects of one variable with issues associated with validity and reliability of the instrument on the other were discussed. The following chapter therefore discussed the preliminary data analysis of the demographic variables and the descriptive analysis. The process employed in testing the hypothesized model as developed in the framework through CFA and SEM were further examined.

CHAPTER FOUR

DATA FINDINGS AND DISCUSSION

4.1   Introduction

This chapter presents the quantitative analysis of data obtained after the field work based on respondents' answers and the result of the analysis of data gathered from the hypotheses generated for the study.   The study, which focuses primarily on the mediating effect of school-based management on school climate, bureaucracy and effectiveness raised seven hypotheses which were formulated to guide this study. This chapter therefore focuses on seven sections. The first section is the introductory part, while the second section focuses on the data preparation by cleaning and screening data for avoidance of missing values, which is required in SEM.

The third part examines demographic description of the participants and the descriptive statistics of their responses. The fourth section examines the principal component analysis for questionnaire item reduction of for all constructs.   The fifth examines the confirmatory factor analysis of the latent variables indicating the fitness indexes for the model. The sixth section analyse the structural equation modelling showing the results of hypotheses through path analysis for the direct effect and identifying the mediating role of school-based management on other variables for the indirect effect. Finally, the seventh section presents the summary of the findings.

4.2   Data Preparation

In this study, different instruments were adapted. This included a mix of scale as well as positive and negative worded items. However, in preparing for SEM, all negatively

worded items were converted for the responses to reflect positively and all scales were put at seven. Thereafter, the data were examined for missing values, and normality of distributions according to the guidelines provided by Tabachnick, Fidell and Osterlind (2001) and Hair, Anderson, Tatham and Black (1998) through version 23.0 of the SPSS for Windows program.

Teachers constitute participants in this study. There were 400 questionnaires distributed to teachers who are respondents in this study. The number of teachers who returned their questionnaires was 373 (93%) out of the 400 set of questionnaires distributed. All raw data retrieved were checked to ensure there is completeness of the inputted data prior further use in this study. However, out of the returned questionnaires, items from 23 questionnaires were identified to have missing values. Missing values are common in many areas of social sciences research as many researchers face problem of unforeseen missing quantitative data, that is why it is rare to obtain complete data set for all cases (Coakes & Steed, 2001; Pigott, 2001). Missing values can affect results as SEM requires complete data without missing values to run analysis (Allison, 2002).

As shown in the table 4.1 below, most cases had valid and non-missing value except for 23 cases (6%) with missing values. Nine cases had missing value of one items; 5 cases had missing data on three items; 3 cases had missing data on two items; 3 cases had missing data on seven items; two cases had missing data on 10 items; and one case had missing data on twelve items.

However, there are several approaches to handling missing values and addressing incomplete data in social science research depending on how the values are missing. Little and Rubin (1987) in Byrne (2001, 2010) classified missing data into three unique patterns: Missing Completely at Random (MCAR) which exists when missing values are randomly distributed; Missing at Random (MAR) which exists when missing values are not randomly distributed across all cases but are linked to the observed value of other variables; and Non-ignorable Missing at Random (NMAR) type exists when missing values are not randomly distributed across cases but the probability of disorderliness cannot be predicted from the variables in the data set.

Meanwhile, one of the most widely used statistical methods of dealing with incomplete data is list wise deletion. This according to Pigott (2001) allows default deletion where missing cases are excluded from the data analysis leaving only the complete cases. It is assumed that missing values are MCAR as the observed complete cases are random sample of the originally targeted representation of the entire population. Also, the data set has only few missing observations, which is in line with Rubin (1976) terminology that the missing data are MCAR which is more likely to apply since there is greater chance of the complete cases representing the population with very few missing cases. Small number of cases with missing values were therefore removed, this put the returned and completed surveys at 350 (88% of teachers' response rate was recorded).

Table 4.1

Distribution of Number of Missing value on each case

S/N	# of Missing Values	Count of Cases	% of Cases
1	0	350	93.83
2	1	9	2.42
3	3	5	1.34
4	2	3	0.80
5	7	3	0.80
6	10	2	0.54
7	12	1	0.27
	Total	373	100

4.3   Demographic Distribution of Respondents

The analysis provided below gives information on the distribution frequencies analysis on demographic and personal profile of teachers who are respondents in this study. The characteristics of respondents provided consists of gender, age group, highest educational qualification, length of service and nature of employment.

Table 4.2

Demographic statistics of teachers

	Gender	Age Group	Highest Qualification	Length of Service	Nature of Employment
Valid	350	350	350	350	350
Missing	0	0	0	0	0

Table 4.2 indicates the overall demographic statistic of teachers who are the respondents. The table shows that there are no missing values in the study. Tables below will further show the respondents detailed characteristics in respect of their gender, age group, highest qualification, length of service and the nature of their employment in their respective schools.

Table 4.3

Teacher Characteristics by Gender

Gender	Frequency	Percent
Male	153	43.7
Female	197	56.3
Total	350	100.0

Table 4.3 indicates the frequency distribution of teachers by gender. It shows that 153 of the teachers were male while the female teachers were 197 as obtained from the analysis. In terms of percentage, there are 43.7% males and 56.3% females.

Table 4.4

Teacher Characteristics by Age Group

Age	Frequency	Percent
Up to 25years	81	23.1
26-45 years	141	40.3
46-55 years	109	31.1
56 years above	19	5.4
Total	350	100.0

Table 4.4 indicates that from the distribution of respondents by age group, 23.1% of the respondents were between age group of 25years, 40.3% are between age range of

26 and 45 years, 31.1% are in the range of 46 - 55 years of age while only 5.4% of

teachers are above 55 years of age. The distribution in terms of frequency shows that

81 teachers were in the age range of 25years, 141 teachers were in the age range of

26-45years, 109 teachers were in the age group of 46 - 55 years, and 19 teachers are

more than 55 years old. This shows that many of the teachers in Kwara State

secondary schools are in their youthful age of 26-45 years and some in the age range

of 46-55 years.

Table 4.5

Teacher characteristics by Qualification

Qualification	Frequency	Percent
NCE	94	26.9
ND	39	11.1
HND	62	17.7
Bachelor's Degree	123	35.2
Master's Degree	32	9.1
Total	350	100.0

Table 4.5 gives information about the highest educational qualification of teachers. It

reveals that, most teachers had a bachelor's degree, i.e. 35.2%; 9.1% had a master's

degree certificate, while 27% had Nigeria Certificate in Education (NCE) which are

required teaching qualification for Nigeria teachers teaching in secondary schools in

Kwara State, Nigeria. However, few teachers have National Diploma and Higher

National Diploma which are non-teaching qualification in schools, i.e. 11% and 17.7%

respectively. In terms of frequency, 249 respondents are professional teachers who

are dully certified with Nigeria Certificate in Education, bachelor's degree, and

master's degree while 101 of them have non-teaching qualification (National Diploma and Higher National Diploma) but still teach in secondary schools.

Table 4.6

Teacher characteristics by length of service

Service Year	Frequency	Percent
≤ 5	115	32.9
6 – 10	125	35.7
11 – 15	71	20.3
16 – 20	11	3.1
≥ 21	28	8.0
Total	350	100.0

The above table 4.6 indicates that, from the distribution of respondents by number of years of teaching experience, 115 (32.9%) of the respondents have being teaching for 5 years; 125 (35.7%) have 6-10 years teaching experience; 71 (20.3%) have between 11 and 15 years of teaching experience; 11 (3.1%) of the teachers have 16 - 20 years of teaching experience, and 28 (8.0%) have being teaching for 21 years and above.

4.3   Descriptive Analysis of Items

RQ 1 – What are the teachers' perception on school climate, bureaucracy, school-based management and school effectiveness in Nigeria Secondary Schools?

In this study, descriptive analysis was used to ascertain how participants (secondary school teachers) perceived and responded to the questionnaire items which were sub-grouped into four constructs (School Climate, Bureaucracy, School Effectiveness and School-Based Management).   The rating scales were merged, to imitate the responses of teachers who entirely disagree, mostly disagree and somewhat disagree to reflect

disagree; while the neither agree nor disagree remain unchanged. Also, the responses on somewhat agree, mostly agree and entirely agree were merged to reflect agree. The percentage of agreement and disagreement of their responses are analysed and shown in the table 4.7 below.

Table 4.7

Descriptive Analysis of Responses on School Climate

No	Item	Disagree		Neutral		Agree	
		N	%	N	%	N	%
1.	My school lacks materials needed to do my job effectively.	94	26.8	51	14.6	205	58.6
2.	There is shortage of facilities.	79	22.6	66	18.9	205	58.5
3.	The school lacks fund in introducing up-to-date materials.	78	22.3	61	17.4	211	60.3
4.	My principal promote trust among staff	91	26.0	43	12.3	216	61.8
5.	I show greater concern for other colleagues.	93	26.6	23	6.6	234	66.8
6.	I am appreciated by other colleagues.	97	27.7	33	9.4	220	62.9
7.	My mistakes are corrected by the principal.	107	30.6	42	12.0	201	57.4
8.	The principal conveys clearer message to me.	111	31.7	44	11.7	198	56.6
9.	I work together with other teachers	102	29.1	79	22.6	169	48.3
10.	I socialise with other teachers outside school.	95	27.1	69	19.7	186	53.1

Table 4.7 Continued

11.	I listen to student concerns in the classroom.	92	26.3	64	18.3	194	55.4
12.	I monitor students' progress frequently.	104	29.7	47	13.4	199	56.9
13.	The school emphasizes on showing respect for all students' cultural beliefs and practices.	158	45.1	58	16.6	134	38.3
14.	The school formerly recognizes my effort	125	35.7	81	23.1	144	41.2
15.	The school review my work	141	40.3	48	13.7	161	46.0

From the table above, it revealed that 205 of the total participants representing 58.6% agreed that there is lack of facilities in their various schools, while 51 of the participants representing 14.6% were undecided. However, 94 of the participants disagree to the statement, that is they perceived that there are enough facilities in their schools. Also, 205 participants representing 58.5 perceived that there is shortage of materials, while 79 participants representing 22.6% of the total respondents disagreed to the statement. Only 66 respondents were undecided to the statement.

Based on the various reactions therefore, it could be concluded that the schools are lacking instructional materials and facilities needed by teachers to do their jobs effectively. This is in support Ogbu (2015) who revealed the inadequacy of instructional materials like films, overhead projectors, slides, equipment and other machines needed while teaching in school. He further stressed that many of these materials are neither accessible nor available in the right quantity and quality required for proper utilisation. The condition has negatively obstructed on the education quality

offered in Nigeria secondary schools and therefore, there is need for urgent provision of material resources in excellent quality and quantity in secondary schools in Nigeria.

The participants perception on funding in school for up to date materials shows that, out of the total respondents of 350; 211 representing 60.3% agreed that the school lacks fund in introducing recent and up-to-date materials while 78 of them representing 22.3% disagreed to the statement. However, 61 constituting 17.4% of the participants were undecided in their opinion. Therefore, it could be concluded that secondary schools in Kwara State lacks fund in introducing new materials to such as Information Communication Technology tools. Lack of funding has been identified as a significant cause of decline in education (Ogbu, 2015). It is saddening that most teachers cannot locally improvise some of these materials due to paucity of funds especially when the country is struggling to get out of the current economic recession

Item 4 reveals that majority of the participants (216 - 61.8%) agreed that the school head promote trust among teachers, while 26.0% which represents 91 disagreed. 43 participants representing 12.3% were undecided. Also, item 5 shows that 234 of the participants representing 66.8% agreed that they show greater concern for their other colleagues in school, while 93 of them representing 26.6% of the participants disagreed to the statement and 23 of the participants neither agreed nor disagreed to the statements. Therefore, based on the perceptions of the participants as shown in the table 4.7, it is obvious that, most teachers show greater concern for each other in Kwara State secondary schools. That is, the school system encourages positive social

support within and outside the school for all the stakeholders particularly among teachers whereby they all feel valued, cared for and connected with one another.

As reported in item 6, the perceptions of the teachers revealed that 97 of the 350 participants representing 27.7% disagreed that they are appreciated by other colleagues while 33 representing 9.4% were indifferent. However, majority of the teachers which constitute 220 representing 62.9% agreed to the statement that they are appreciated by their other colleagues, and thus, teachers appreciate the efforts of their other colleagues in Kwara State secondary schools, Nigeria.

From item 7 of the table 4.9, it was discovered that 201 of the total 350 participants representing 57.4% agreed that the school head corrects their mistakes while 107 representing 30.6% disagreed. However, 42 participants neither agreed nor disagreed to the statement. Similarly, item 8 shows that, many agreed that the principal conveys clearer message to them as 198 representing 56.6% supported the statement, 111 representing 31.7% disagreed, and 44 representing 11.7% were indifferent.

Item 9 revealed that 102 representing 29.1% of the total participants disagreed that they work together with other teachers, 79 representing 22.6% were indifferent while 169 representing 48.3% participants agreed to the statement. Likewise, item 10 revealed that, 95 participants representing 27.1% does not socialise with other teachers outside school, 69 representing 19.7% were indifferent, 186 representing 53.1% socialize with other teachers outside school. Many teachers listen to the concerns of their students in the classroom. This is evident from the participants responses in item

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11, as 194 out of 350 representing 55.4% agreed, 64 participants representing 18.3% neither agreed nor disagreed, while 92 participants representing 26.3% disagreed. Similar findings in item 12 shows that 199 teachers representing 56.9% monitor the progress of their students regularly, 104 (29.7%) disagreed to the statement and 47 were indifferent.

Of the total participants, 158 teachers representing 45.1% disagreed that the school emphasizes showing respect for all students' cultural beliefs and practices, 58 (16.6%) were indifferent and 134 representing 38.3% agreed to the statement. 125 of the total participants representing 35.7% disagreed that the school recognizes their efforts, while 81 of the participants representing 23.1% neither agreed nor disagreed. From the responses from teachers, it could be said in other words that, there is need for a school to understand clearly those characters that involves attitudes, customs, standards, values, beliefs and traditions which have been established as culture for improvement of school and higher morale for teachers and students. Nevertheless, 144 of the participants representing 41.2% agreed to the statement, that they perceived that the school formerly recognizes their efforts. Based on the reactions of the participants therefore, it could be concluded that the school recognize the effort of the teachers in Kwara State secondary schools.

Item 15 above revealed that out of the 350 participants in this study, 141 participants representing 40.3% disagreed that the school review their work, while 48 of the participants representing 13.7% neither agreed nor disagreed. Also, 161 of the participants representing 46.0% agreed to the statement, that they perceived that the

school usually review their works.   Based on the various reactions therefore, it could be concluded that the school review the work of the teachers in Kwara State secondary schools, Nigeria.

Table 4.8

Descriptive Analysis of Responses on Bureaucracy

1.	I am assigned to teach in my subject area.	105	30.0	76	21.7	169	48.3
2.	I freely carry out my responsibilities in class.	181	51.7	34	9.7	135	38.6
3.	Aside teaching, I carryout administrative work.	81	23.1	51	14.6	218	62.3
4.	Arrival and departure time are strictly enforced	94	26.9	56	16.0	200	57.1
5.	I am being checked for rule violations	82	23.4	56	16.0	212	60.6
6.	I am not expected to leave school without permission.	93	26.6	41	11.7	216	61.7
7.	I strictly follow school operating procedures.	76	21.7	37	10.6	205	58.6
8.	Written orders are followed unquestionably.	77	22.0	76	21.7	197	56.3
9.	I get directives from my principal.	70	20.0	55	15.7	225	64.3
10.	I am assigned subject based on my relevant teaching experiences.	180	51.4	52	14.9	118	33.7
11.	I am encouraged to use various teaching methods.	120	34.3	35	10.0	195	55.7
12.	Promotions are based on how well I do my job.	111	31.7	31	8.9	208	59.4
13.	Past teaching experiences plays a large part in my assignment in this school.	178	50.8	65	18.6	107	30.6
14.	I sponsor extra-curricular activities which I have no suitable background of.	179	43.7	76	21.7	121	34.6
15.	Nothing is said if I get to school late.	123	35.1	77	22.0	150	42.9

Table 4.8 Continued

16	I easily get discouraged when making decisions.	188	50.9	66	18.9	106	30.2
17.	There isn't much chance for promotion unless you are "in" with the administration.	163	46.6	65	18.6	122	34.9
18.	I consider gravity of an offence while deciding on the appropriate penalty.	167	47.7	52	14.9	131	37.4

As shown in table 4.8, the first item revealed that out of the 350 participants in this study, 105 representing 30.0 disagreed that they were assigned to teach in their subject area, while 169 participants representing 48.3% of the total respondents agreed to the statement. However, only 76 teachers representing 21.7% of the total participants neither agreed nor disagreed. It was further revealed in item 2 that out of the 350 participants in this study, 105 participants representing 30.0% disagreed that they are allowed to freely carryout their responsibilities in school, while 76 of the participants representing 21.7% were neutral, they neither agreed nor disagreed.

However, perception of some of the teachers is in line with the statement when 169 of the participants representing 48.3% agreed that they can carry out their responsibilities freely in class. It was also revealed in item 3 that most teachers engage in administrative work aside teaching in the classroom. It is evident in their responses when 218 (62.3%) agreed, 81 (23.1%) disagreed and 51 (14.6%) were indifferent.

On the aspect of rule in school, 200 teachers representing 57.1% agreed that the school strictly enforce the time for arrival and departure, 56 (16.0%) were indifferent, and 94 participants representing 26.9% disagreed. Similarly, 212 teachers representing 60.6% of the total participants agreed that they were being checked for rule violations,

while 82 (23.4%) disagreed and 56 (16.0%) neither agreed nor disagreed. 216 teachers (61.7%) agreed that they cannot leave the school without permission, 41 (11.7%) were neutral, and 93 (26.6%) disagreed.

Also, the operating procedures in school are strictly followed as 205 teachers representing 58.6% of the total participants were in line with this statement. Though 76 participants constituting 21.7% disagreed, 37 participants who are 10.6% neither agreed nor disagreed. This submission is in line with the responses gotten on item 23, where 197 (56.3%) agreed that written orders are followed unquestionably, 77 (22.0%) participants disagreed and 76 (21.7%) participants were indifferent.

While 225 teachers representing 64.3% agreed that they get directives from the principal, it was also revealed that 70 participants representing 20.0% disagreed that they are to get directives from their principal before making decision, while 55 of the participants representing 15.7% were neutral, that is, they neither agreed nor disagreed. Similarly, teachers are assigned subject based on their relevant teaching experiences. As shown in the table item no 10, 180 participants representing 51.4% disagreed that they are assigned subject based on relevant teaching experiences, that is, they teach based on needed subject area without preference to their experiences, while 52 of the participants representing 14.9% were neutral, they neither agreed nor disagreed.

However, some of the teachers perceived that the statement is true as 118 of the participants representing 33.7% agreed that they were assigned to teach based on their

previous teaching experiences. Even though many teachers (195 – 55.7%) were encouraged to use varieties of teaching methods in class, some of the participants (120) representing 34.3% of the sample were not in support of the statement and 35 (10.0%) of them neither agreed nor disagreed.

From the above table 4.8, 111 participants representing 31.7% disagreed that their promotions are based on how well their job is done, 31 teachers representing 8.9% of the total participants were neutral and 208 teachers who represents 59.4% agreed to the statement. Likewise, 178 participants representing 50.8% of the total participants disagreed to the statement that past teaching experiences plays a significant role in their assignments in school while 65 of the participants representing 18.6% were neutral, they neither agreed nor disagreed. However, some of the teachers perceived that the statement is true as 107 of the participants representing 30.6% agreed to the statement. Therefore, the above reveals that teaching experiences does not play much role in their current assignment in school.

Similarly, item 14 shows that 179 teachers which represents 43.7% of the total respondents disagreed that they sponsor extra-curricular activities which they have no suitable background of, 76 (21.7%) were neutral and 121 (34.6%) agreed to the statement. On item 15, 123 teachers (35.1%) disagreed that nothing is said if they get to school lately, 77 (22.0) were neutral and 150 (42.9%) agreed. Also, some teachers representing 106 (30.2%) agreed that they easily get discouraged when making decisions in school. Many others (188 – 50.9%) disagreed with the statement and few (66 – 18.9%) are indifferent.

Item 17 shows that, while 163 teachers representing 46.6% of respondents disagreed that there is no much chance for promotion unless they are in good term with the administration, 122 representing 34.9% disagreed and 65 were neutral. Also, item 18 revealed that many teachers (167 – 47.7%) does not consider the gravity of an offence before deciding on the appropriate penalty, while 131 representing 37.4% agreed to the statement, 52 (14.9%) were neutral.

Table 4.9

Descriptive Analysis of Responses on School Effectiveness

1.	I want to be identified with this school	71	20.3	54	15.4	225	64.3
2.	My school is a great place to work	74	21.1	39	11.1	237	67.7
3.	I am willing to put in significant effort in my work	87	24.9	20	5.7	243	69.4
4.	I use variety of teaching strategies to help student learn	87	24.9	33	9.4	230	65.7
5.	I use computer to strengthen my skills	215	61.4	48	13.7	87	24.9
6.	I encourage students to seek extra lesson to get better grades.	90	25.7	38	10.9	222	63.4
7.	The development plan improves my work.	87	24.9	60	17.1	203	58.0
8.	I work on development plan of this school.	52	14.9	79	22.6	219	62.6
9.	I get suggestions on how to improve my teaching.	63	18.0	55	15.7	232	66.3
10.	I work according to the school goals.	63	18.0	46	13.1	241	68.9
11.	Task oriented atmosphere is fostered in my school.	77	22.0	59	16.9	214	61.1
12.	I accept changes.	100	28.6	54	15.4	196	56.0
13.	I quickly adjust when changes are made.	91	26.0	50	14.3	209	59.7
14.	Articulations with other schools are encouraged.	97	27.7	62	17.7	191	54.6
15.	I am involved in school activities.	110	31.4	45	12.9	195	55.7
16.	I participate in decision making at school.	117	33.4	74	21.1	159	45.4

From the above table 4.7, it was revealed in item 1 that out of the 350 participants in this study, 71 participants representing 20.3% disagreed that they want to be identified with their school, that is, they are not willing to be associated with their schools, while 54 of the participants representing 15.4% were neutral, they neither agreed nor disagreed. However, perception of many of the teachers is in line with the statement when 225 of the participants representing 64.3% agreed that they want to be associated with their schools. Based on the various reactions therefore, it could be concluded that secondary schools in Kwara State, Nigeria is a suitable place for teachers to work. Therefore, it could be said that teacher commitment to work place within which her services are rendered are specified by her sense of loyalty to the school.

Similarly, item 2 revealed that out of the 350 participants in this study, 74 participants representing 21.1% disagreed that their school is a great work, while 39 of the participants representing 11.1% were neutral, they neither agreed nor disagreed. However, 237 of the participants representing 67.7% agreed to the statement, that they perceived that they are satisfied with their various schools as a good place to work. Based on the various reactions therefore, it could be concluded that secondary schools in Kwara State, Nigeria is a suitable place for teachers to work.

The table further revealed that many teachers are willing to put in significant effort in their work as 243 representing 69.4% agreed, 20 participants representing 5.7% were neutral and 87 representing 24.9% disagreed. Also, 230 (65.7%) teachers agreed they use different strategies to help student learn, while 87 (24.9%) disagreed. However, many teachers do not use computer to strengthen their skills as 215 representing 61.4

participants disagree that they use computer, 87 representing 24.9% agreed to the statement and 48 (13.7%) neither agreed nor disagreed. Also, many teachers (222 representing 63.4%) agreed that they encourage students to seek extra lesson to get better grades while 90 of the participants representing 25.7% disagreed.

Participants (219 – 62.6%) agreed that they work on school development plan, which in turn improves their work plan (203 – 58.0%) while 52 participants representing 14.9% and 87 representing 24.9% disagreed to the statements; and 79 participants and 60 participants were neutral on items 8 and 7 respectively. Also, many teachers (232 representing 66.3%) agreed that they get suggestions on how to improve their teaching while 63 of the participants representing 18.0% disagreed. Based on the various reactions therefore, it could be concluded that secondary schools in Kwara State, Nigeria gives suggestions to teachers on how best to perform their responsibilities.

From the above table 4.9, it was revealed that out of the 350 participants in this study, 63 participants representing 18.0% disagreed that they want to be identified with their school, that is, they work according to the school goals, while 46 of the participants representing 11.1% were neutral, they neither agreed nor disagreed. However, perception of many of the teachers is in line with the statement when 241 of the participants representing 68.9% agreed that they work with the school goals. Similarly, item 11 revealed that out of the 350 participants in this study, 77 participants representing 22.0% disagreed that task oriented atmosphere is fostered in their schools, while 59 of the participants representing 16.9% were neutral, they neither agreed nor disagreed and perception of many of the teachers is in line with the

statement when 214 of the participants representing 61.1% agreed that the school fostered task oriented atmosphere.

The statement in item 12 asked teachers if they accept changes, however, as indicated in the above table 4.9, it was revealed that out of the 350 participants in this study, 100 participants representing 28.6% disagreed that they accept changes, while 54 of the participants representing 15.4% were neutral, they neither agreed nor disagreed. Also, perception of many of the teachers is in line with the statement as 209 of the participants representing 59.7% agreed that they accept changes. Item 13 revealed that out of the 350 participants in this study, 91 teachers representing 26.0% participants disagreed that when changes are made in school, they quickly adjust among themselves, while 50 of the participants representing 14.3% were neutral, they neither agreed nor disagreed.

However, perception of many of the teachers is in line with the statement when 209 of the participants representing 59.7% agreed that they quickly adjust to changes made by their schools. The findings is in line with Harn, Parisi and Stoolmiller (2013) that teacher who frequently adapt in the best interest of her students maximizes the intervention potentials and this in turn positively affect student outcomes while the other teacher who is rigid in adherence to changes result to low student engagement and poor student outcomes.

Furthermore, item 14 revealed that out of the 350 participants in this study, 97 participants representing 27.7% disagreed that their schools articulate with other

schools, while 62 of the participants representing 17.7% were neutral, they neither agreed nor disagreed. However, perception of many of the teachers is in line with the statement when 191 of the participants representing 54.6% agreed that their schools are encouraged to articulate with other schools. Also, 110 teachers representing 31.4% disagreed that they are involved in school activities, 45 teachers who constitutes 12.9% were neutral and 159 teachers representing 45.4% disagreed with the statement.

Teachers are expected to participate in decision making in school. As shown in the table 4.9, 117 teachers representing 33.4% disagreed that they participate in decision making in schools, while 74 of the participants representing 21.1% were neutral, they neither agreed nor disagreed. However, some of the teachers perceived that the statement is true as 159 of the participants representing 45.4% agreed that they participate in decision making in school. It was also revealed that teachers make informal contacts with others as 107 participants representing 30.6% disagreed, 52 teachers representing 14.9% were neutral, while 191 of the participants representing 54.6% perceived that the statement is true.

Table 4.10

Descriptive Analysis of Responses on School-Based Management

1	I make informal contacts with other teachers.	107	30.6	52	14.9	191	54.6
2	I think school-based management is the type of reform that school needed for better quality and improvement of student achievement.	90	25.7	43	12.3	217	62.0
3	I have opportunity to seek advice and support from other stakeholders.	103	29.4	31	8.9	216	61.7
4	The school-based policies, programs and actions have significantly improved the student achievements.	95	27.1	27	7.7	228	65.1
5	The stakeholders' participation has improved my motivation.	97	27.7	14	4.0	239	68.3
6	I consider myself as a team member	102	29.1	31	8.9	217	62.0
7	I discuss with the principal on the strategies to implement changes.	87	24.9	32	9.1	231	66.0
8	School based management has created higher participation of stakeholders leading to improve student achievements in school.	103	29.4	43	12.3	204	58.3

Teachers perceived that school-based management is a reform that the school needed for better quality and improvement. As shown in the table 4.10 item no 1, 90 participants representing 51.4% disagreed, 43 teachers representing 12.3% of the participants are neutral while 217 teachers constituting 62.0% of the participants agreed. Also, 216 teachers representing 61.7% agreed that they seek advice and support from stakeholders while 103 teachers who are 29.4% of the participants disagreed. However, 31 teachers representing 8.9% neither agreed nor disagreed to the statement. Similarly, 228 teachers representing 65.1% agreed that school policies and programs has significantly improve student achievements, while 95 teachers representing 27.1% disagreed.

Item 4 of table 4.10 showed that teacher motivation has increased due to stakeholder participation in school management. As shown in the table, 97 participants representing 27.7% disagreed that they are motivated by the participation of stakeholders in school management, while 14 of the participants representing 4.0% were neutral, they neither agreed nor disagreed. However, many of the teachers perceived that the statement is true as 239 of the participants representing 68.3% agreed that their motivation have increased due to the participation of stakeholders in school management.

However, 217 (62.0%) teachers considered themselves as a team member, while 102 (29.1%) considered themselves as not a team member and 31 (8.9%) were indifferent. Also, item 6 revealed that 87 teachers who constitute 24.9% of participants do not discuss implementation strategies with their school principal and stakeholder in school management; 32 teachers representing 9.1% are neutral and 231 teachers representing 66.0% agreed that they discuss with their principals on the implementation strategies to implement changes in school.

The participants perception on participation of stakeholders in school-based management shows that, out of the total respondents of 350, 204 representing 58.3% agreed that the school-based management has created a greater participation of stakeholder which has resulted to improved performance in their schools, while 103 of them representing 29.4% disagreed to the statement. However, 43 of the participants were undecided in their opinion. Therefore, it could be concluded that participation

in school-based management is higher and has improved school performance in secondary schools in Kwara State.

4.4   Testing Normality of Distribution

The assessment of normality of data is considered as a useful assumption and prerequisite in multivariate statistical analysis (Tabachnick and Fidell, 2007; Hair et al., 2010).   There are several statistical and graphical methods which can be used to investigate the normality of distribution using SPSS. The assumptions can be explored graphically and statistically according to Coakes and Steed (2001); Hair et al. (2010); Pallant (2007); Tabachnick and Fidell (2007) through: Histogram, Stem-and-Leaf plot, Boxplot, Normal probability plot, Detrended normal plot, Kolmogorov-Smirnov statistic with a Lilliefors significance level and the Shapiro-Wilks statistics, Skewness, and Kurtosis.

However, the assumption according to Hair et al., (2010) specifies that distribution of data for each item should be apportioned normally in a linear combination. The spatiality of the distribution can be assessed through Kolmogorov-Smirnov and Shapiro-Wilk (K-S) statistics (Shapiro and Wilk, 1965) which was done for each of the variables in this study.   Kolmogorov-Smirnov and Shapiro-Wilk statistical measure were used to test the normality for each variable. The result of the analysis shown in table 4.11 violated the normality assumptions as it revealed that all variables are significant. This according to Pallant (2007) should be expected when a study uses a large sample size. However, some reputable scholars agreed that, the normality test

for Kolmogorov-Smirnov is invalid and therefore regarded as historical curiosity (Field, 2009; Hair et al., 2010).

Table 4.11

Assessment of Normality

Construct	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Climate	0.198	350	0.000	0.900	350	0.000
Bureaucracy	0.145	350	0.000	0.952	350	0.000
Effectiveness	0.160	350	0.000	0.920	350	0.000
School Based Management	0.177	350	0.000	0.873	350	0.000

Similarly, the normality of distribution was assessed using two statistical methods of skewness and kurtosis. Skewness refers to the measure of the spatiality of a distribution while kurtosis is the measure of the peakedness of a distribution (Pallant, 2007; Tabachnick and Fidell, 2001; 2007). Both Skewness and Kurtosis refer to the shape of the distribution and are often used with interval and ratio level (Coakes and Steed, 2001). The shape of the distribution according to Hair et al. (2010) can be positive or negative, that is distribution skew towards the left and tails toward right, and or align towards the right and tail to left.

However, there is no consensus on the specific value required to be met regarding skewness and kurtosis as opinions differ on the required threshold. For instance, Tabachnick and Fidell (2001) suggested that for a normally distribution, values of skewness and kurtosis should fall within range of - 2 and +2 while Curran, West and

Finch (1996) considers skewness values <2.00 and kurtosis <7.00 as normal; values ranging from 2.00 to 3.00 as non-normal skewness value and values ranging from 7.00 to 21.00 as non-normal kurtosis values. Monte Carlo simulations suggest that a skewness value smaller than 2.00 and a kurtosis value smaller than 7.00 can be considered normal; skewness values ranging from -2.00 to +2.00 and kurtosis values ranging from 7.00 to 21.00 are considered moderate, and skewness value greater than 3.00 and kurtosis value greater than 21.00 are considered not normal.

Ultimately, for a distribution to be regarded as exactly normal, the value of skewness and kurtosis should show a symmetric shape and be equal to zero (Curran et al., 1996; Finney & DiStefano, 2006). Table 4.12 presents the skewness and kurtosis values for each of all items of the constructs. As shown in the table, the results indicated that all variables were within the normal range of skewness and kurtosis. No item had skewness and kurtosis greater than 3.00 and 7.00 respectively (Hair et al., 2010, p.82). However, the results show scores are having both positive and negative skewed data which reflects the underlying nature of the constructs being measured in this study and does not necessarily depict any problem if it falls within the range of acceptance (Pallant, 2007). The results show that distribution of all variables can be considered normal and can therefore be used for testing model in this study.

Table 4.12

Skewness and Kurtosis Tests

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
AD6	1.000	7.000	-0.434	-3.312	-0.567	-2.165
AD5	1.000	7.000	-0.426	-3.257	-0.806	-3.079
PD9	1.000	7.000	-0.554	-4.230	-0.745	-2.847
PD7	1.000	7.000	-0.667	-5.098	-0.336	-1.283
CP4	1.000	7.000	-0.310	-2.367	-1.103	-4.211
CP1	1.000	7.000	-0.274	-2.095	-1.191	-4.546
HR3	1.000	7.000	-0.324	-2.476	-0.630	-2.404
RL3	1.000	7.000	-0.481	-3.672	-0.866	-3.306
CT9	1.000	7.000	-0.143	-1.089	-1.245	-4.755
CT8	1.000	7.000	-0.169	-1.289	-1.093	-4.173
SS7	1.000	7.000	-0.342	-2.612	-0.808	-3.085
SS6	1.000	7.000	-0.188	-1.434	-0.807	-3.083
DL2	1.000	7.000	-0.155	-1.182	-0.854	-3.262
SBM9	1.000	7.000	-0.486	-3.713	-1.129	-4.310
CM3	1.000	7.000	-0.778	-5.943	-0.484	-1.849
EC4	1.000	7.000	-0.562	-4.293	-0.671	-2.561
SBM4	1.000	7.000	-0.603	-4.604	-0.950	-3.626
EC3	1.000	7.000	-0.455	-3.472	-0.533	-2.034
SBM6	1.000	7.000	-0.528	-4.032	-1.038	-3.963
DL3	1.000	7.000	-0.117	-0.893	-1.071	-4.090
CM2	1.000	7.000	-0.720	-5.502	-0.532	-2.032
CM1	1.000	7.000	-0.686	-5.242	-0.569	-2.175

4.5   Factor Analysis

In the words of Bryman and Cramer (2005), factor analysis refers to a commonly adopted statistical method employed to develop instrument into cluster items with common factors, which interprets each factor based on items with high loading and summarizes it into a small factor. They further describe loading as the degree of association between an item and a factor that belongs together. Munro (2005) specified that related items are constructs that convened together, while unrelated items are those that do not belong together and should therefore be deleted as they do not define the construct.

Similarly, Stevens (2002) opined that a factor is considered reliable whenever it has 10 or more constructs with loadings of 0.4 with more than 50 participants. The commonalities of the items on the school climate, bureaucracy, school-based management and effectiveness questionnaires would be ascertained. On the basis of these tests, items loading of less than 0.50 will be deleted from the questionnaire. The decision to eliminate such items was confirmed using Guideline of Statistical Significance for Interpreting Factor Loadings (Stevens, 2002; Kaiser's 1960).

More specifically, not all items contribute equally to the consistency of the reliability scale, that is why factor analysis might be well-thought-out to eliminate those items having low factor loadings and have a realistic smaller number of factors. It also necessary to consider factor analyses in determining if the scales of school climate, bureaucracy, school-based management and effectiveness were independent of each other. However, factor analysis was conducted on the actual study since the study

sample size is considerably larger than the pilot study sample, that is, 350 teachers compared to 90 teachers. The actual study estimate will probably give more accurate values as statistical values is sensitive to sample size and small sample size may not be sufficiently reliable.

Therefore, principal component analysis was used to achieve item reduction for the actual study due to the large sample size in order to simplify subsequent analysis and examine the co-variance of observed variables to be able to gather information on the underlying latent constructs using the Statistical Package of the Social Sciences software (SPSS), Version 23.

In order to confirm the constructs dimensions (reduce data having high correlations, and indeed check if the proposed factor structures are consistent with the data); principal component analyses with varimax rotation was performed on all questionnaire items using SPSS 23.0. Data included responses from questionnaires dully completed by selected teachers from Kwara State public secondary schools, Nigeria. Originally, there were 67 questionnaire items in all, thereby 19 items were initially thought to measure school effectiveness, 10 items for school-based management, 20 items for bureaucracy and 18 to measure school climate.

However, not all the school effectiveness, school-based management, bureaucracy and climate items were loaded well on the appropriate factor, as few items of absolute value of less than .50 were supressed and later expunged from the final scale. This decision is in line with the criteria of Manning and Munro (2007); Straub, Boudreau

and Gefen (2004) which suggested the need to choose a high value up to .50 and get rid of likely insignificant ones.

The value was therefore increased and all items having higher loading up to .50 were incorporated in the model. Components of school climate accounted for 73.02% of total variance extracted, bureaucracy accounted for 72.94%, school-based management and effectiveness having a total variance explained amounting to 72.05% and 74.39% respectively were all having an eigenvalue greater than >1 (see table 4.14, 4.15, 4.16, 4.17).

4.5.1 Sampling Adequacy

Basically, the two tests recommended for factor analysis by Hinton, Brownlow, McMurray and Cozens (2004) were Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity. Measure of sampling adequacy according to Tabachnik and Fidell (2007), Hair, et al. (2006) and Hinton et al. (2004) must exceed 0.50 while Barlet's test of Sphericity significant level of p less than 0.05. Furthermore, if the value of KMO is between 0.5 and 1.0, this indicates that factor analysis is appropriate for the data, while values less than 0.5 mean that the data are not sufficient to perform factor analysis (Kaiser, 1974).

Table 4.13 indicates that the values of KMO for sampling adequacy are 0.874, 0.914, 0.903, 0.921 for school climate, bureaucracy, school-based management, and school effectiveness respectively indicating that the sample size is adequate to perform factor analysis. The Barlet's test of Sphericity value is significant ($p < 0.05$) confirms the

possibility of identifying factors in the data set as suggested in the conceptual model. The detailed analyses and measures used to guide the final selection of items are reported in the tables 4.13, 4.14, 4.15, 4.16, 4.17 below.

Table 4.13
Measure of Sampling Adequacy

KMO and Bartlett's Test		Climate	Bureaucracy	School Based Management	School Effectiveness
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.874	.914	.903	.921
Bartlett's Test of Sphericity	Approx. Chi-Square	4495.304	3879.948	3286.264	4569.871
	Df	153	45	105	136
	Sig.	.000	.000	.000	.000

From the table 4.13 above, the Bartlett's Test of Sphericity for all variables is significant at .000 with P-value <0.05 and the Kaiser-Meyer-Olkin measure of sampling adequacy which shows the proportion of variance among variables measures 0.874 for school climate, 0.914 for bureaucracy, 0.903 for school based management, and 0.921 for school effectiveness are all > .6 which represents a high level of sampling adequacy for factor analysis, hence, the value are within the required range which makes data more suitable. Therefore, it is appropriate to proceed with the factor analysis.

4.5.2 Factor Loading

Research Question 2 - Are the constructs of school climate, bureaucracy, school-based management and school effectiveness valid, reliable; and meet SEM's model-fit indices minimum requirements?

In determining the components to be extracted, there is a need to identify factor loading for research variables of school climate, bureaucracy, school-based management and school effectiveness. Hence, there is need to consider some information as shown in the output of the analysis. From the analysis as shown in table 4.14 below, the component matrix revealed the loading of items on four components for school climate. Originally, there were four items to measure ecology, five items to milieu (all of which were retained), five items to social system and four items to culture. From all the 18 items measuring school climate, three items (EC4 – *Equipment are kept in usable condition*, SS3 – *the principal checks my activities in the classroom*, and CT2 – *I leave the school as classes finish*) were having factor value less than .50 and were removed from the scale leaving the remaining items with factor loading >.50 to 15 (see table 4.14).

Likewise, there were 20 and 19 items in all to measure bureaucracy and school effectiveness respectively in the initial scale, of all these items, two (DL1 – *I am overload with administrative responsibilities* and HR1- *I make my own decisions independently*) and (AD4 – *I cope with disruptions* and CH1 – *my suggestions are accepted by the school*) were having factor loading value less than .50 and had been suppressed during the analysis leaving the final items to 18 for bureaucracy and 17 for effectiveness. The last questionnaire was having 10 items and later supressed 2 items (SBM1 – My work load has increased significantly under the school council structure

and SBM2 – There are adequate provisions for me to seek help to reduce my work load) leaving the remaining items to eight (see tables 4.14, 4.15, 4.16, and 4.17).

Table 4.14

Factor Loading for questionnaire items on School Climate

School Climate		Component 1	2	3	4
Milieu	ML4	.849			
	ML3	.836			
	ML2	.780			
	ML1	.654			
	ML5	.642			
Ecology	EC2		.781		
	EC3		.779		
	EC1		.702		
Social System	SS2			.852	
	SS1			.776	
	SS5			.560	
	SS4			.557	
Culture	CT4				.832
	CT3				.766
	CT1				.765

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 5 iterations, Cronbach's alpha = .919,
cumulative variance = 73.02%

The above table 4.14 shows a good combination of items retained for Ecology, Milieu, Social System and culture items. Ecology items include; *Lack of instructional materials needed to do my job effectively* (EC1), *Shortage of facilities* (EC2) *Lack of*

fund in introducing up to date materials (EC3). Milieu items include*; Principal promote trust among staff* (ML1), *I show greater concern for other colleagues* (ML2); *I am appreciated by other colleagues* (ML3); *my mistakes are corrected by the principal* (ML4), *and the principal conveys clear message to me* (ML5). Social system items retained are: *I work together with other teachers* (SS1), *I socialize with other teachers outside school* (SS2), *I listen to student concerns in the classroom* (SS4), *I monitor students' progress frequently* (SS5). Culture items retained are: *The school emphasizes on showing respect for all students' cultural beliefs and practices* (CT1), *former recognition of teacher efforts* (CT3) *and the review of teacher's work* (CT4).

Table 4.15

Factor Loading for Bureaucracy

	Bureaucracy	Component 1	2	3	4
Rules and Hierarchy	RL2	.821			
	RL3	.787			
	HR2	.787			
	RL1	.747			
	RL4	.700			
	HR3	.660			
Impersonality	IP3		.840		
	IP2		.812		
	IP1		.809		
	IP5		.806		
	IP4		.797		
Competence	CP3			.766	
	CP2			.763	
	CP4			.736	
	CP1			.702	
Division of Labour	DL3				.557
	DL2				.704
	DL4				.544

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations. Cronbach's alpha = .93,
cumulative variance = 72.94%

Table 4.15 shows a good combination of items retained for bureaucracy. Division of

labour items are: *I freely carry out my responsibilities in school* (DL3), *I am assigned*

to teach in my subject area (DL2), and *aside teaching, I carry out administrative work*

(DL4). Hierarchical/Rules items retained include*; I am not expected to leave school without permission* (RL3), *I strictly follow school operating procedures* (RL4), *Arrival and departure time are strictly enforced* (RL1*), I am being checked for rule violations* (RL2), *I get directives from my principal* (HR3*), written orders are followed unquestionably* (HR2).

Competence items are: *I am assigned subject without regard for my relevant teaching experiences* (CP1), *past teaching experiences plays a large part in my assignment in this school* (CP4*), promotions are based on how well I do my job* (CP3), *I am encouraged to use various teaching methods* (CP2). The last factor which is impersonality has all items loading retained. The items are; *I easily get discouraged when making decisions* (IP3) and *nothing is said if I get to school late* (IP2), *I sponsor extra-curricular activities which I have no suitable background of* (IP1), t*here isn't much chance for promotion unless you are "in" with the administration* (IP4), and *I consider gravity of an offence while deciding on the appropriate penalty* (IP5).

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Table 4.16

Factor Loading for Effectiveness

School Effectiveness		Component 1	2	3	4
Productivity	PD5	.785			
	PD6	.768			
	PD4	.726			
	PD2	.711			
	PD3	.683			
	PD1	.563			
Commitment	CM2		.765		
	CM4		.736		
	CM3		.720		
	CM1		.712		
	CM5		.637		
Adaptation	AD3			.782	
	AD2			.732	
	AD1			.635	
Cohesiveness	CH3				.889
	CH4				.734
	CH2				.549

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations. Cronbach's Alpha =

.94, cumulative variance = 74.39%

Table 4.16 shows a good combination of items retained for school effectiveness. All

items for commitment and productivity were retained. These include but not limited

to*; I want to be identified with this school* (CM1), *my school is a great place to work*

(CM2*), I am willing to put in great effort in my work* (CM3*), I use varieties of teaching strategies to help student learn* (CM4), and *I use computer to strengthen my skills* (CM5). Items retained for productivity include; *I encourage students to seek extra lesson to get better grades* (PD1*), I work according to the school goals* (PD5), *I work on development plan of this school* (PD2), *the development plan improves my work* (PD3), *I get suggestions on how to improve my teaching* (PD4), and *task oriented atmosphere is fostered in my school* (PD6). Three out of 4 items were retained for adaptation as well as cohesiveness. The items include; *I accept changes* (AD1*), I quickly adjust when changes are made* (AD2), *articulations with other schools are encouraged* (AD3); *I am involved in school activities* (CH2), *I participate in decision making at school* (CH3), and *I make informal contacts with other teachers* (CH4).

Table 4.17

Factor Loading for School Based Management

Component Matrix[a]	
SBM4	.861
SBM5	.854
SBM6	.864
SBM7	.892
SBM8	.835
SBM9	.866
SBM10	.868
SBM3	.744

Extraction Method: Principal Component Analysis.
1 component extracted.
Cronbach's Alpha = .94,
cumulative variance = 72.05%

Table 4.17 shows a good combination of items retained for school-based management. Three items were suppressed by PCA leaving the remaining items at 7. These include but not limited to: *School based management has created higher participation of stakeholders* (SBM9), *stakeholder participation has improved teacher motivation* (SBM6), and *I have opportunity to seek advice from other stakeholders* (SBM4).

4.6   Measurement Models

Confirmatory Factor Analysis (CFA) is a particular factor analysis method used to examine the relationships among variables without determining a particular hypothetical model (Bryman & Cramer, 2005). CFA helps researchers define the construct based on the theoretical framework, which indicates the direction of the measure and identifies the greatest variance in scores with the smallest number of factors (DeVon et al., 2007; Munro, 2005). It is essential to have a sufficiently large sample to enable factor analysis to be undertaken reliably (Bryman & Cramer, 2005). Although, the number of participants required undertaking factor analysis remains under debate, a minimum of five participants per variable is generally recommended (Munro 2005).

The CFA is appropriately used when the knowledge of the underlying construct is based on empirical research or theory.   It substantiates the extent to which the underlying latent variables measures the constructs and also allows for verifying the underlying factors extracted from the PCA.   Hence, it allows items loaded freely on the factor to determine the adequacy of its goodness-of-fit to the data sampled (Hair, et al., 2010). For this reason, CFA was computed in order to verify items extracted

from PCA test and verify that all fitness indexes achieve the required level in this study.

In conducting Structural Equation Modelling (SEM) analysis, Anderson and Gerbing (1988) recommend that, having develop a measurement model, a confirmatory factor analysis be conducted first followed by testing of the structural model which shows the hypothesized relationships. This section presents the Confirmatory Factor Analysis (CFA) for the measurement model of all the thirteen constructs of School Based Management (SBM), Hierarchical-rule (Hier), Division of Labour (Div), Competence (Comp), and Impersonality (Imp), ecology (Eco), Mileu (Mil), Social System (SoS), Culture (Cut), Productivity (Prd), Commitment (Com), Adaptability (Adp), Cohesiveness (Coh). A model was extracted for each variable with items selected from the initial principal component analysis.

This study employed a two-step technique to estimate the parameters using the measurement model through the CFA to specify the relationship between the latent and observed variables followed by SEM through path analysis which stipulates the relationship existing among latent variables (Byrne, 2010; Hair, Black, Babin, & Anderson, 2010; Joreskog, 1993; Schumacker & Lomax, 2004). The CFA in this study focused on four latent variables which are: school climate, bureaucracy, school effectiveness and school-based management with their observed variables by ascertaining the squared loading factor greater than 0.50 (Holmes-Smith, 2001).

4.6.1   Confirmatory Factor Analysis for School Climate

School Climate was measured with the taxonomy of Taguiri as ecology, milieu, social system and culture developed by Ruane (1995). The questionnaire is a 7-scales of instrument was modified to suit the context of this study, comprising of 15 observed variables. Although, all values of factor loadings for the initial measurement model of school climate are > .60, results of the initial measurement model however revealed that the data did not fit the model appropriately. The fitness indexes indicated that the model was unacceptable (CMIN = 518.1; df = 84; χ^2/df = 6.1; GFI=0.84; AGFI= 0.77; CFI= 0.87; TLI=0.84; NFI = .85, RMSEA=0.12) and there was need for modification (see figure 4.1 below).
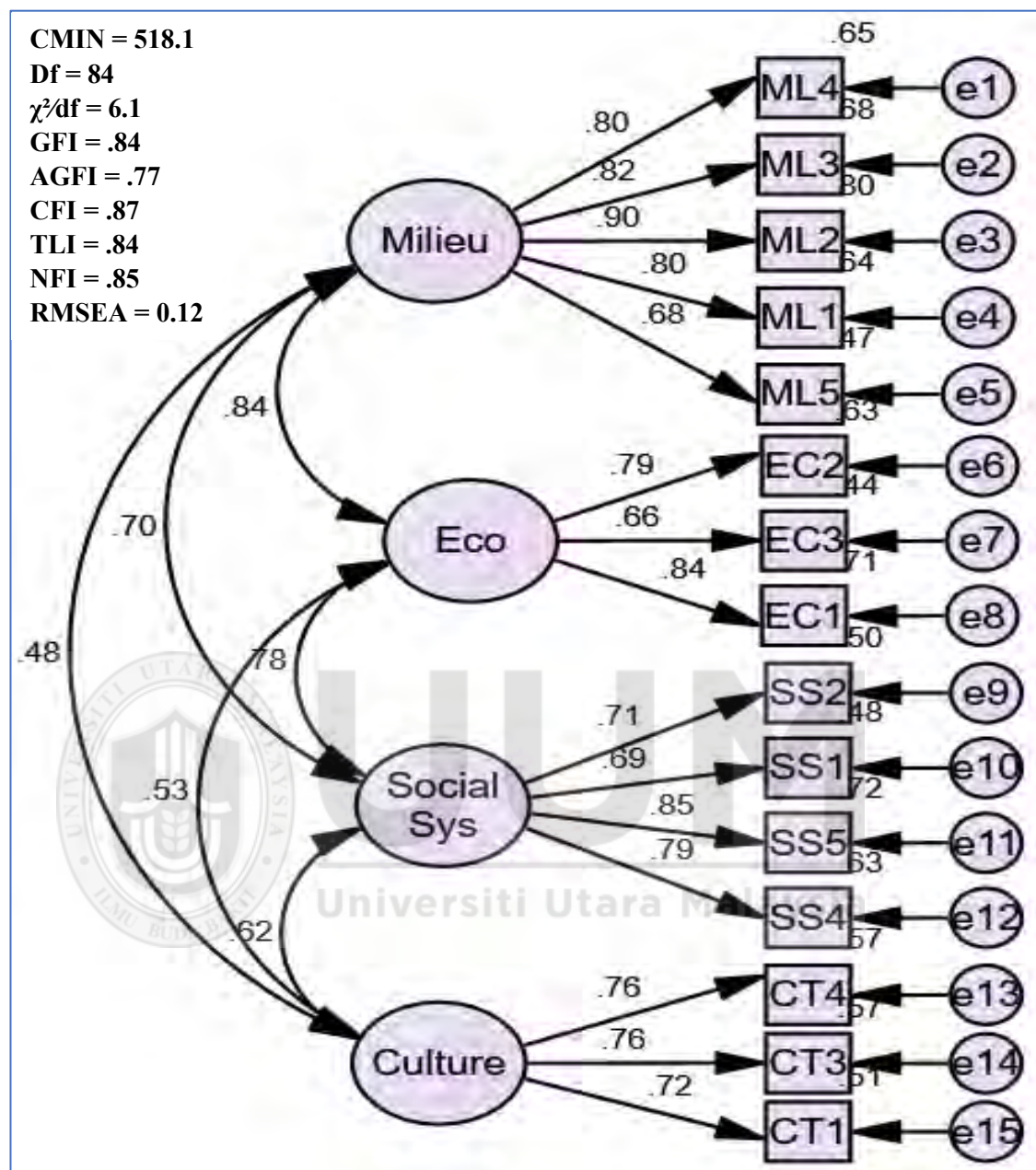
Figure 4.1. Initial measurement model of school climate

The first modification was done by reducing the items from the initial measurement model, hence, four items were expunged. The results however yielded a moderate lack of fit of the model and the data with a chi-square of 126.4 with 38 degrees of freedom was statistically significant at p<0.05. Other fit indexes indicated that model was acceptable (χ^2/df = 3.3, GFI=0.94; AGFI= 0.89; CFI= 0.96; TLI=0.94; NFI = .94)

except for RMSEA = 0.083 which is moderately acceptable. Thus, there was need to examine the modification indices to check for redundant items since all items loading are up to 0.60.

However, the redundant items were correlated in order to set the two measurement errors as free parameters (Awang, 2015). A set of redundant items was found in the correlated measurement error of e7 – e9 having a modification index value of 23.50 which is greater than 15.0 and its therefore considered high. Therefore, correlating (e7 - ML3 and e9 - CT4) the two items would statistically improve the model fit and the new measurement model was estimated again (see table 4.15 and figure 4.2).

Table 4.18

School Climate Modification Index

			M.I.	Par Change
e11	<-->	Social_Sys	10.175	.247
e9	<-->	Social_Sys	10.367	-.261
e9	<-->	Milieu	8.488	.251
e5	<-->	e10	4.744	.172
e5	<-->	e9	9.967	-.269
e4	<-->	e11	4.730	.177
e4	<-->	e10	4.666	-.171
e3	<-->	Milieu	5.219	.137
e2	<-->	Culture	5.815	.221
e2	<-->	e10	4.296	.176
e2	<-->	e5	4.140	-.142
e2	<-->	e3	7.876	-.182
e1	<-->	Milieu	7.234	-.169
e1	<-->	e2	6.979	.178
e8	<-->	Culture	4.153	.155
e8	<-->	Milieu	4.161	-.112
e8	<-->	e10	8.769	.208
e7	<-->	Social_Sys	9.602	-.162
e7	<-->	e10	6.170	-.165
e7	<-->	e9	23.504	.348
e6	<-->	Social_Sys	5.620	.157
e6	<-->	Culture	12.904	-.328
e6	<-->	e10	4.103	-.170
e6	<-->	e7	5.495	.132

The final model of school climate has 11 observed variables with factor loading ranging from 0.65 - 0.90. The results yielded a good fit between the model and the data. Out of the four factors of school climate, ecology and social system are true representation of the construct. The chi-square of 101.6 with 37 degrees of freedom was statistically significant at $p<0.005$. All other fitness indexes indicated an acceptable model with good fit ($\chi^2/df = 2.75$, GFI = 0.95, AGFI = 0.91, CFI = .097, TLI = 0.95, NFI = 0.95, RMSEA = 0.07). This confirmed that the third model was a

good fit of the data. The values are in line with the thresholds of Hu and Bentler (1999) and Hair et al. (2010).

CMIN = 101.6
Df = 37
χ²/df = 2.75
GFI = .95
AGFI = .91
CFI = .97
NFI = .95
TLI = 0.95
RMSEA = 0.07
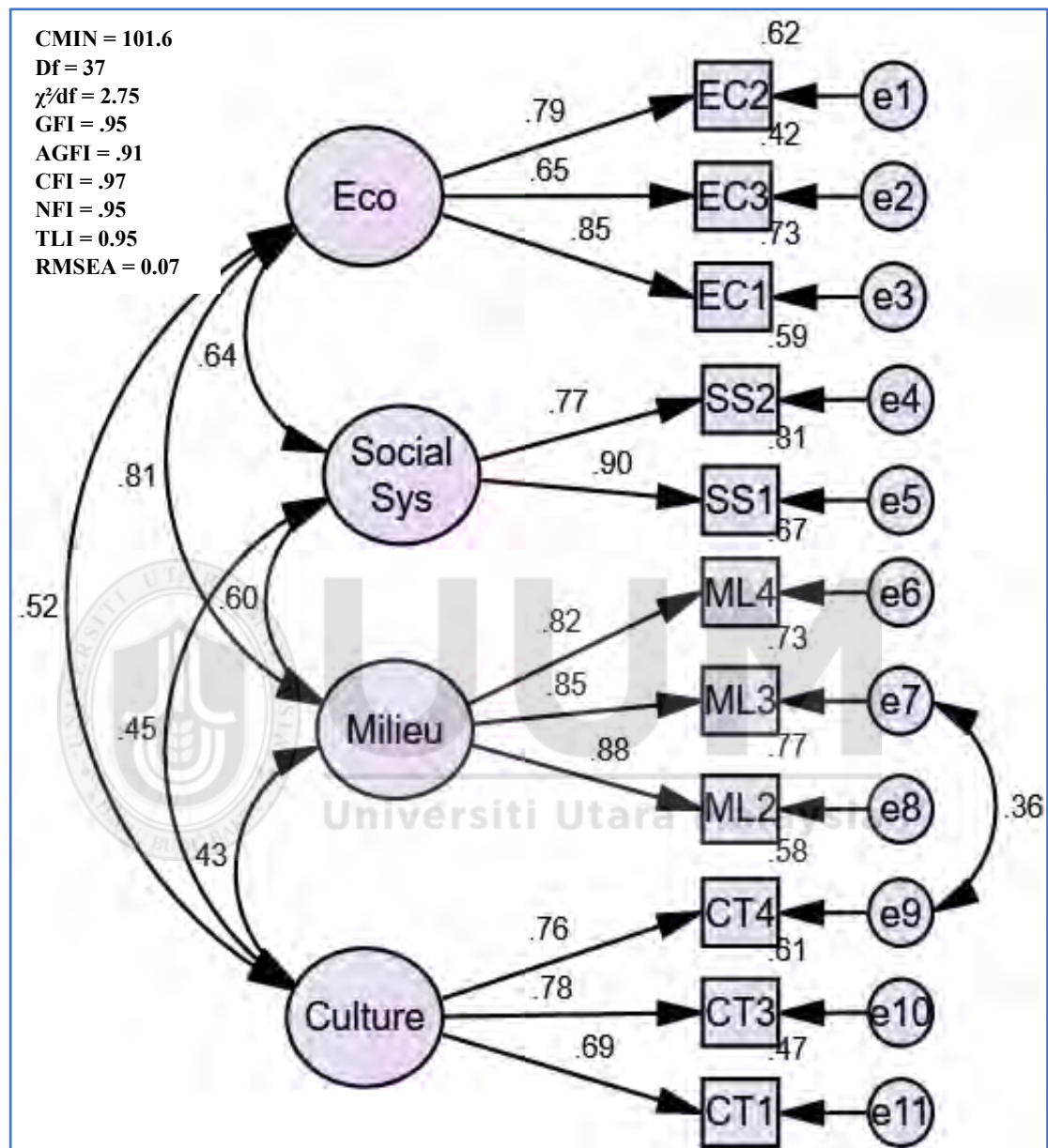
Figure 4.2. The final measurement model of school climate

4.6.2 Confirmatory Factor Analysis for Bureaucracy

Bureaucracy was measured with seven scales of instrument developed based on the hierarchy of authority, competence, impersonality, division of labour and rules

comprising of 18 observed variables. Although all observed variables are having factor loadings > 0.50, the initial measurement model of bureaucracy showed that the data did not fit the model appropriately. Thus, fit indexes indicated that the model was unacceptable (CMIN = 609.09; df = 129; χ²/df = 4.7; GFI=0.84; AGFI= 0.79; CFI= 0.89; TLI=0.87; NFI=0.87 RMSEA= 0.103) and there was a need for modification.
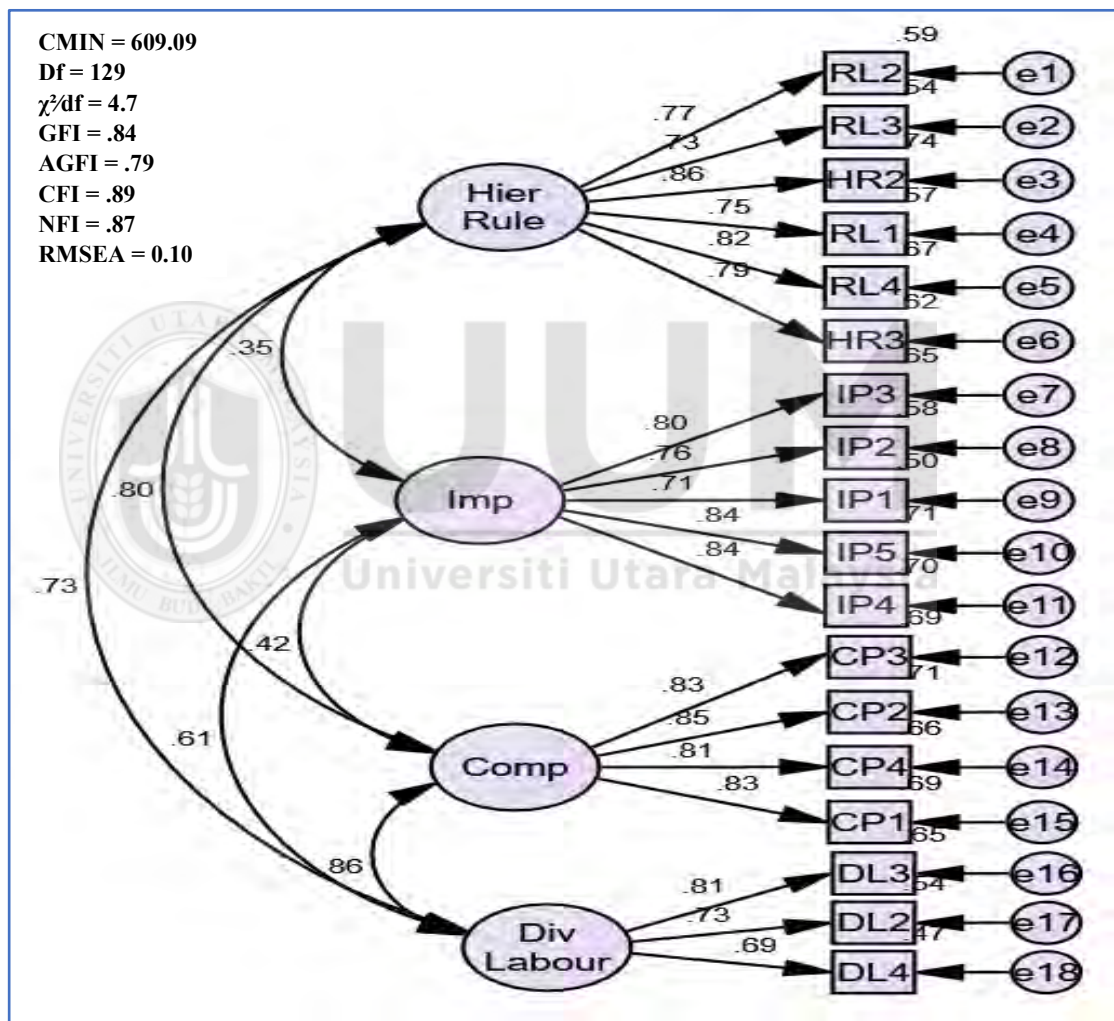
Figure 4.3. Initial Measurement Model of Bureaucracy

As shown in figure 4.3, the output indicated that all observed variables were having good reliabilities with squared factor loadings greater than 0.50, yet there is poor fitness of the measurement model for the constructs, hence, there is a need for

modification of the model. Although, from the second modified model, the chi-square of 312.5 with 71 degrees of freedom was statistically significant at p<0.05. Other fitness index statistics indicated the model was not fit (χ^2/df = 4.5; GFI=0.88; AGFI= 0.83; CFI= 0.91; TLI = 0.89; NFI = 0.89; RMSEA=0.10). Thus, the need to examine the modification indices to check for redundant items since all items loading are up to .50 (Holmes-Smith, 2001).

However, in dealing with redundant items, Awang (2015) suggested that, one of the two redundant items can be deleted from the model or otherwise, two correlated measurement errors can be set as free parameters. In this model, there are two sets of redundant items found in the correlated measurement error of e5 - e8 having a modification Index value of 16.532 and e4-e9 having MI value of 23.458 (see table 4.16) which are > 15.0 and its therefore considered high. Modification index suggested that a correlation of the error terms between IP2 - DL3; and HR3 – DL2 would statistically improve the model fit. The redundant items were correlated, and the new measurement model was estimated again (see figure 4.4)

Table 4.19

Modification Index for Bureaucracy

			M.I.	Par Change
e4	<-->	Imp	5.420	.169
e10	<-->	Comp	11.528	-.223
e10	<-->	Hier_Rule	13.944	.212
e10	<-->	e4	16.339	.286
e9	<-->	e4	23.458	-.323
e8	<-->	Comp	4.768	.125
e8	<-->	Hier_Rule	15.714	-.199
e13	<-->	e4	4.203	.129
e13	<-->	e10	6.219	-.193
e13	<-->	e8	10.640	.223
e11	<-->	Div_Labour	8.565	-.191
e11	<-->	Hier_Rule	4.728	.122
e11	<-->	e10	6.607	-.224
e11	<-->	e8	5.379	-.179
e7	<-->	Comp	18.274	.291
e7	<-->	Hier_Rule	4.034	-.116
e7	<-->	e8	4.520	-.166
e7	<-->	e12	5.896	.196
e6	<-->	Comp	10.376	-.225
e6	<-->	e10	4.413	.190
e6	<-->	e12	14.498	-.316
e5	<-->	e9	8.207	-.254
e5	<-->	e8	16.532	.340
e5	<-->	e11	8.459	-.277
e3	<-->	Imp	9.793	.285
e3	<-->	e8	5.246	-.181
e2	<-->	Imp	10.507	-.237
e2	<-->	e9	5.067	.151
e2	<-->	e6	4.002	-.150
e1	<-->	Imp	5.112	-.176
e1	<-->	e9	9.584	.221
e1	<-->	e8	9.598	-.209
e1	<-->	e13	9.985	-.214
e1	<-->	e11	11.951	.264

The final model of school bureaucracy was developed by correlating error terms e4 – e9; and e5 - e8 from the initial model. The results yielded a good fit between the model and the data. The chi-square of 208.17 with 57 degrees of freedom was statistically significant at p<0.005. Other fitness indexes indicated an acceptable model with good fit (χ^2/df = 3.6, GFI = 0.92, AGFI = 0.87, CFI = .94, NFI = 0.92; TLI = 0.92, RMSEA = 0.08).

This confirmed that the second model was a good fit of the data. The values are in line with the thresholds listed in the table below from Hu and Bentler (1999) and Hair et al. (2010). The Goodness Fit Index (GFI) shows a good fit in the range of >0.90 and >0.80; the incremental fit index as shown in the CFI and AGFI value of 0.94 and 0.87 respectively are close to 1, indicating a good fit; likewise, the RMSEA value in the model as shown in table below is within the acceptable range of .05 and .10, hence, indicating a good fit.

CMIN = 208.17
Df = 57
χ^2/df = 3.6
GFI = .92
AGFI = .87
CFI = .94
NFI = .92
TLI = 0.92
RMSEA = 0.08
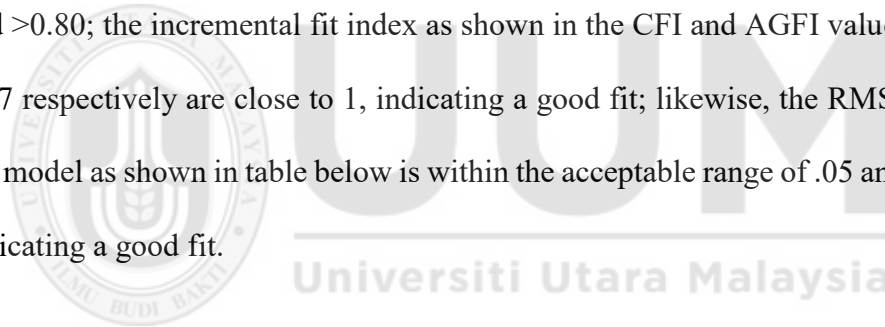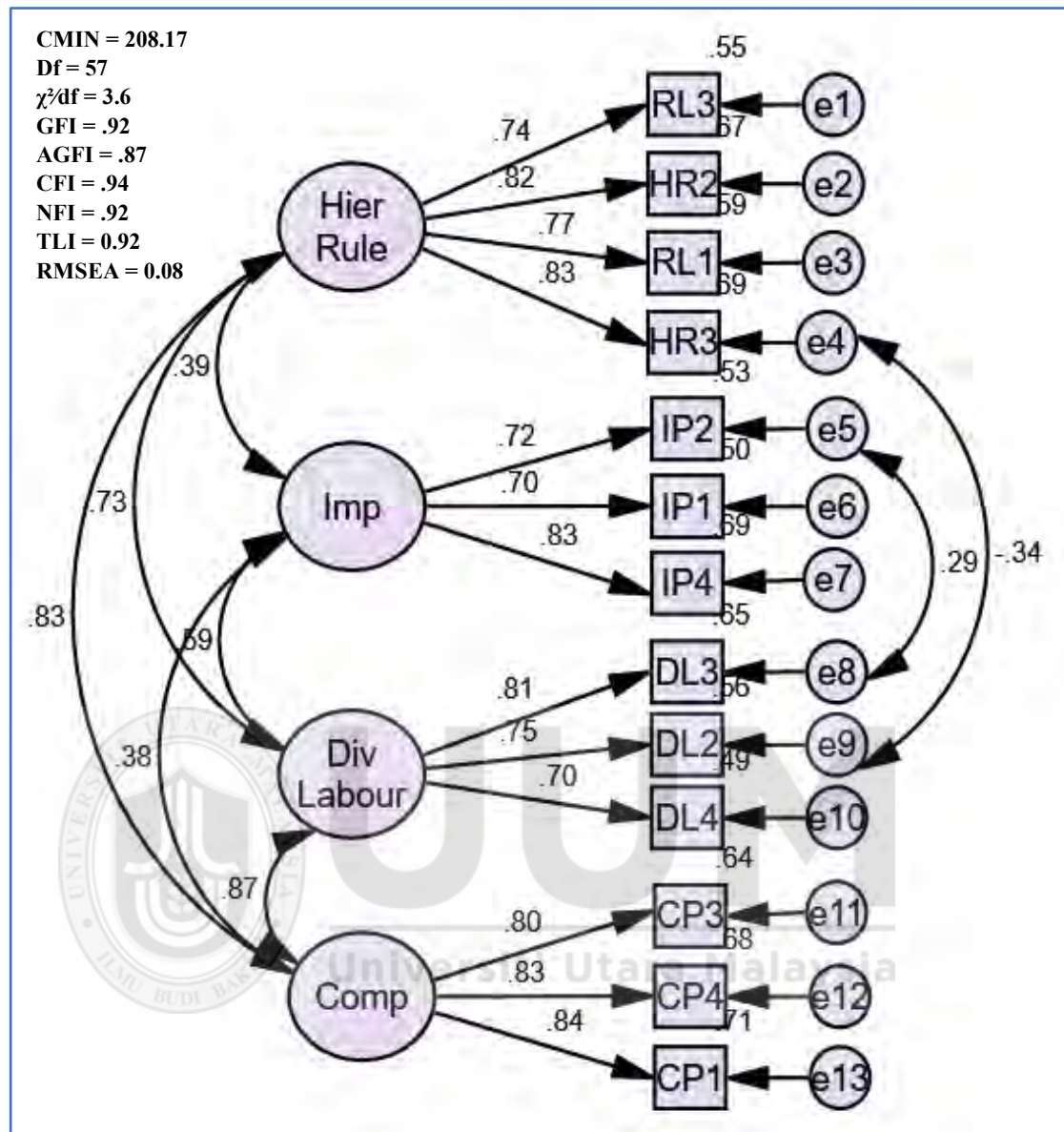
Figure 4.4. Final measurement model of bureaucracy

4.6.3 Confirmatory Factor Analysis for School Based Management

The school-based management had 8 observed variables. The initial measurement estimation of school-based management revealed that the model did not fit the data. The chi-square of 165.9 with 20 degrees of freedom was statistically significant at p<0.05. Other fit statistics showed an unacceptable value for the model (χ^2/df = 8.2;

GFI=0.90; AGFI = 0.82; CFI= 0.94; TLI = .91; NFI = .93), thus, there is a need for modification of the model. Reducing the items in the model from 8 to 5 seems to be acceptable and statistically improve the fit of the model. Results indicated that the model was acceptable (χ^2/df = 2.3; GFI=0.98; AGFI= 0.96; CFI= 0.99; NFI = 0.98; TLI = 0.98; RMSEA= 0.06).
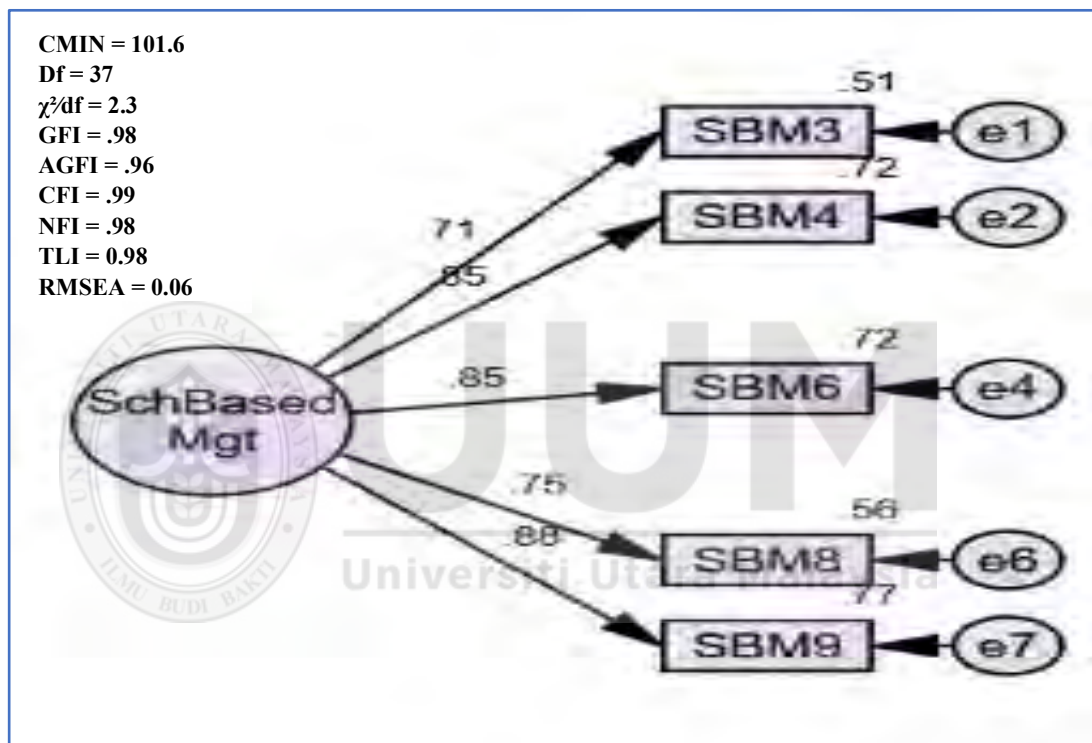
Figure 4.5. Final Measurement Model of School-Based Management

4.6.4 Confirmatory Factor Analysis for School Effectiveness

School effectiveness was measured with four factors which include: productivity, adaptation, cohesiveness and commitment. The school effectiveness was a four-factor model comprising of seventeen observed variables. The results of the initial measurement model of school effectiveness indicated that the model did not fit the

data well. Although the chi-square of 606.2 with 113 degrees of freedom was statistically significant at p<0.05, indicating inappropriate fit, the other fit statistics also indicated the model was not acceptable (χ^2/df = 5.3; GFI=0.84; AGFI= 0.79; CFI= 0.89; TLI = 0.87, NFI = 0.87, RMSEA = 0.11).
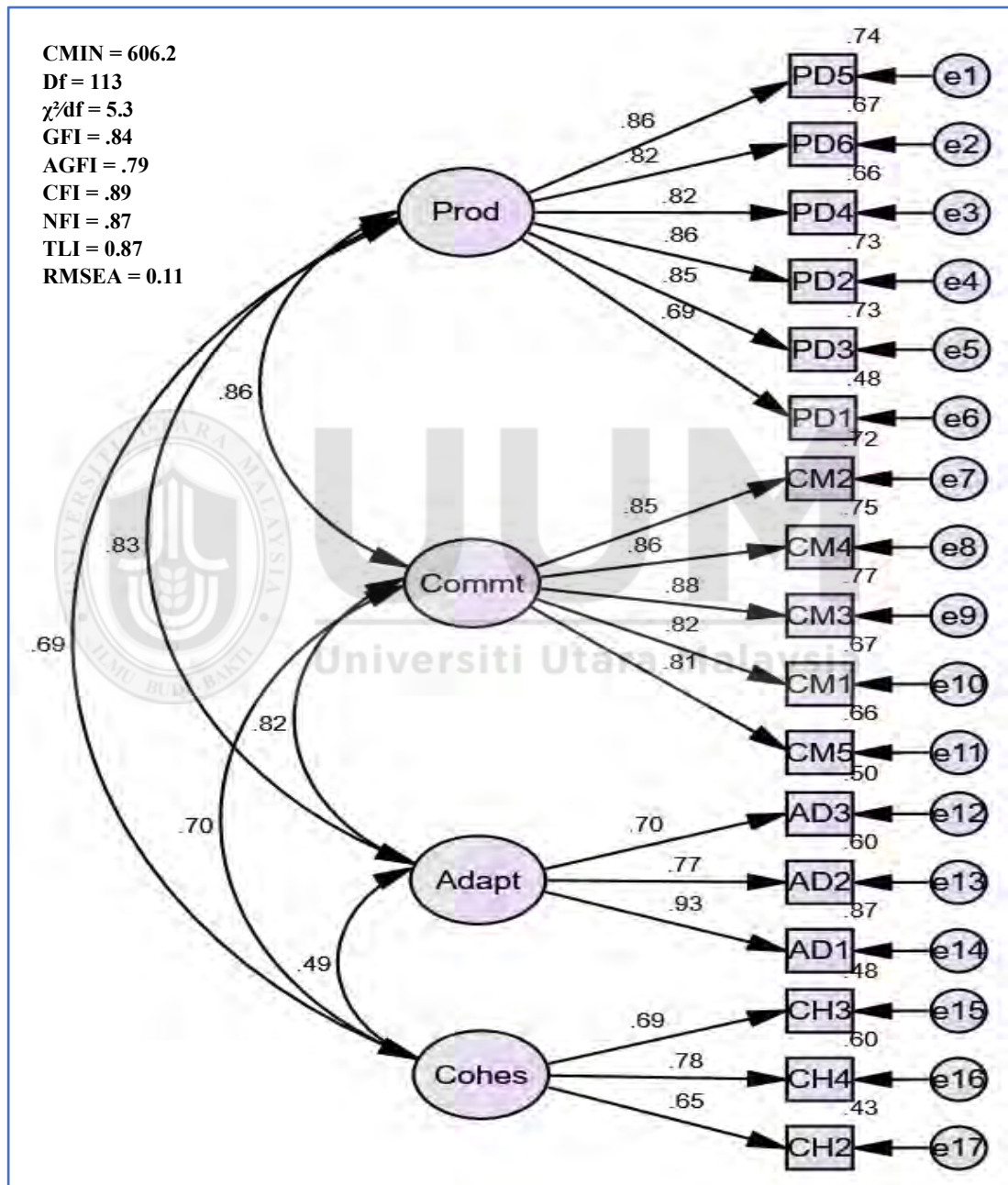
Figure 4.6.　　Initial measurement model of school effectiveness

The results of the initial model indicated that all observed variables have good factor loadings greater than 0.60, yet the fitness indexes are not good. Thus, there is a need for model modification. In achieving a good fit, some items having poor loading were removed from the model and estimation was done again.   The final school effectiveness model was developed, and the conclusive results yielded a good fitness index between the data and model. The chi-square of 73.0 with 38 degrees of freedom was statistically significant at p<0.05. The other fit indexes indicated that the model was acceptable (χ^2/df = 1.9; GFI=0.96; AGFI= 0.93; CFI= 0.98; TLI = 0.98; NFI = 0.97, RMSEA = 0.05).
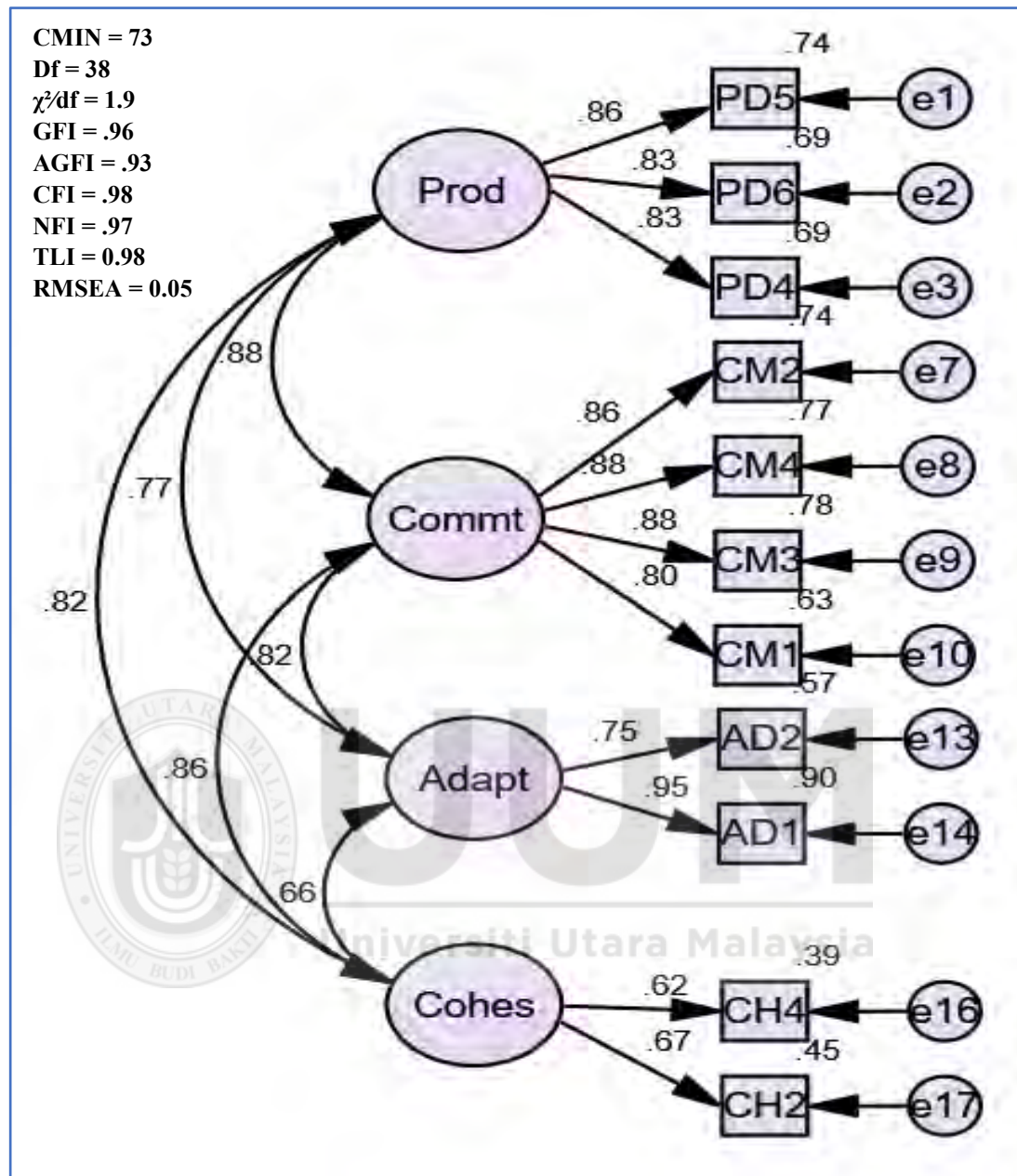
Figure 4.7.   Final Model for school effectiveness

Table 4.20

Measures for Model fit

Category of Measure	Index	Observed Scores After Modification				Recommended Value (Hu and Bentler, 1999; Hair et al., 2010)
		SC	*BRY*	*SE*	*SBM*	
	χ^2	101.6	208.17	73.0	11.98	Near to degree of freedom
Absolute fit	Df	37	57	38	5	The greater, the better
	(χ^2/df)	2.75	3.6	1.9	2.3	<3; or <5
	GFI	0.95	0.92	0.96	0.98	>0.90; >0.80
	RMSEA	0.07	0.08	0.05	0.06	<0.05 to 0.10
Incremental	CFI	0.97	0.94	0.98	0.99	>0.90
fit	NFI	0.95	0.92	0.97	0.98	>0.90
Parsimonious	AGFI	0.91	0.92	0.93	0.96	>0.90; >0.80
fit	PNFI	0.63	0.67	.67	.50	The higher, the better

4.7   Construct Validity of the Model

In evaluating the construct validity of the measurement models towards ascertaining whether the set of items truly reflects the latent construct, there is need to assess the accuracy of the measurement through convergent using factor loadings, squared multiple correlations (R^2), and average variance extracted (AVE).

In assessing convergent validity, Hair et.al. (2010) stated that, indicators of a specific construct should converge or share high proportion of variance in common. However, there are sufficient evidences in this study to confirm the convergent validity of the construct as the squared multiple correlation values (ranges from .49 to .71 for

bureaucracy, .39 - .90 for effectiveness, .42 - .77 for school climate, and .51 - .77 for school-based management) revealed the amount of variance explained to which the observed variable is having high loading to the latent construct.

Furthermore, the standardized factor loadings for all items is greater than .50, the squared loading is greater than the threshold of 0.35 and the AVE value which explains the average percentage of variation in items to a construct is >0.50 (see table 4.18), indicating a good convergent validity and model fit (Hair et al., 1995; Hair et al., 2013; Holmes-Smith, 2001, Awang, 2015).

Table 4.21

Construct Validity for School Climate, Bureaucracy, School-Based Management and School Effectiveness

Variable	Constructs	Item	Estimate	Squared Loading	AVE	Composite Reliability
Bureaucracy	Hierarchical Rule	RL3	0.743	0.552		
		HR2	0.817	0.667		
		RL1	0.767	0.588		
		HR3	0.828	0.686	0.623	0.869
		IP2	0.725	0.526		
	Impersonality	IP1	0.705	0.497		
		IP4	0.828	0.686	0.569	0.798
		CP4	0.826	0.682		
	Competence	CP1	0.842	0.709		
		CP3	0.799	0.638	0.677	0.862
		DL3	0.806	0.650		
		DL2	0.751	0.564		
	Division of Labour	DL4	0.696	0.484	0.566	0.796

Table 4.21 continued

		ML3	0.858	0.736		
		ML2	0.878	0.771		
School Climate	Milieu	ML4	0.820	0.672	0.726	0.888
		EC3	0.648	0.420		
		EC1	0.852	0.726		
	Ecology	EC2	0.789	0.623	0.589	0.810
		SS2	0.772	0.596		
	Social System	SS1	0.896	0.803	0.699	0.822
		CT4	0.774	0.599		
		CT1	0.683	0.466		
	Culture	CT3	0.779	0.607	0.557	0.790
		PD6	0.829	0.687		
		PD4	0.832	0.692		
School Effectiveness	Productivity	PD5	0.862	0.743	0.708	0.879
		CM2	0.858	0.736		
		CM4	0.879	0.773		
		CM3	0.883	0.780		
	Commitment	CM1	0.797	0.635	0.731	0.916
		AD2	0.752	0.565		
	Adaptation	AD1	0.949	0.901	0.862	0.844
		CH4	0.983	0.966		
	Cohesiveness	CH2	0.870	0.870	0.862	0.925
School Based Management		SBM3	0.714	0.510		
		SBM4	0.850	0.723		
		SBM6	0.847	0.717		
		SBM8	0.746	0.557		
		SBM9	0.876	0.767	0.655	0.904

4.8   Structural Model

Having confirmed the measurement models, the final step is to examine the constructs in the model to test whether the proposed hypotheses earlier predicted are significantly related to one another using the Amos graphic. The structural model enables all constructs in the study to be assembled based on the systematic diagram of the model. It presents and estimates the relationships between or among constructs in a study. Specifically, Byrne (2001) posited that structural model reveals the extent to which constructs directly or indirectly impact changes in the value of others in the model.

However, this study will examine the direct and indirect effect of some variables (bureaucracy, school based management and school climate) on school effectiveness with the application of path analysis technique following the suggestion of Cheung and Lau (2008) to interpret the effect of the exogenous variable on the endogenous variable using the regression weights in the path. Path analysis is a subsection of SEM which gives systematic representations of models by providing a visual depiction and examination of causal relationships hypothesized to ensue between or among the exogenous and endogenous variables in a study (Bryne, 2010; Hair et al., 2010; Tabachnick & Fidell, 2007).

The present study formulates objectives and hypotheses in order to examine school-based management as a mediator between bureaucracy on school effectiveness and school climate and school effectiveness in order to ascertain the direct, indirect and total effect on all variables.

SEM are schematically represented with formations of four cryptograms of an ellipse or a circle, rectangle, single and double headed arrows, and error term (e) relating with residual error to predict an unobserved variable. The ellipse signifies an unobserved latent variable, a rectangle signifies some observed variables, both having single headed arrows ($\rightarrow$) indicating the effect of one variable on the other or double headed arrows ($\leftrightarrow$) signifying correlations or co-variances between sets of variables.

4.8.1 Model Construction

In order to allow for tests of constructs and ensure model is true representation of data, there is a need to build a path diagram of structural model to allow the path to be drawn between hypothetical constructs that are unobserved through its corresponding measured variables. Each path in the model represents hypothesized underlying links and its empirical associations. In doing this, the first step was to conceptualize the model as expressed in the hypotheses formulated in chapter 1 to illustrate the relationships existing among the unobserved and their effects on the other variable followed by the specification of the model.

4.8.2   Analysis of Regression Path Coefficient

4.8.2.1 Findings of the Hypotheses

This study integrated five direct and two indirect hypotheses to predict effect of the endogenous variable on the exogeneous variable in the proposed model. Figure 4.9 presented the actual regression coefficient (β) value for each path of the model as well as the strength of relationship between the two exogeneous variables. The output of

the model revealed the value of the regression coefficient and the effect of an exogeneous variable(s) on its corresponding endogenous variable(s).

The full fledge model revealed that the strength of relationship between the two latent constructs/exogenous variables of school climate and bureaucracy is less than 0.85, hence, the two constructs can be treated independently. Although, the correlation strength of the latent constructs was strong, yet it cannot be concluded in this study that multicollinearity exists since the value is less than 0.90. Since the rule of thumb stated that, if two or more variables correlate above .90 and above, then there is a problem; thus, the two exogeneous variables are not redundant.

Even though, many researchers seem to think that SEM are robust against multicollinearity (Malhotra et al., 1999) with some going so far as to state that SEM can remedy multicollinearity (Maruyama, 1998). The ability of SEM to be incorporate measurement error makes it difficult to assess the impact of multicollinearity on parameter estimates (Bollen 1989). The hypothesized paths were coded and renamed for use in the table as:

- BRY = Bureaucracy
- SC = School Climate
- SBM = School Based Management
- SE = School Effectiveness

The standardized path regression coefficient is used to examine the mediating effect of school-based management on school climate, bureaucracy and school effectiveness

(see figure 4.8). The analysis of the hypothesized direct paths of the model however revealed that, the standardized part coefficient shows that three of the five hypothesized paths were significant at $p<0.05$. The significant paths were bureaucracy $\rightarrow$ school-based management, bureaucracy $\rightarrow$ school effectiveness, and school-based management $\rightarrow$ school effectiveness. However, the other two hypotheses (school climate $\rightarrow$ school-based management, school climate $\rightarrow$ school effectiveness were not significant at $p<0.05$.

The direct effect of endogenous variables of bureaucracy on school-based management is significant (standardized regression coefficient = 0.82, p = 0.000) confirming hypothesis 1 - $H_0 1$ as rejected. The direct effect of the exogenous variables of school climate on school-based management is non-significant (standardized regression coefficient = 0.01, p = 0.882) confirming that the findings failed to reject hypothesis 2 – $H_0 2$. The direct effect of bureaucracy on school effectiveness is also significant (standardized regression coefficient = 0.48, p = 0.000), confirming the hypothesis 3 – $H_0 3$ as rejected.

Additionally, the direct effect of the school climate on school effectiveness is non-significant (standard regression weight = 0.10, p = 0.120), hence, the study failed to reject hypothesis 4 – $H_0 4$. Also, the direct effect of school-based management on school effectiveness is significant (standardized regression coefficient = .40, p = 0.000), confirming that hypothesis 5 – $H_0 5$ is rejected (see table 4.22).
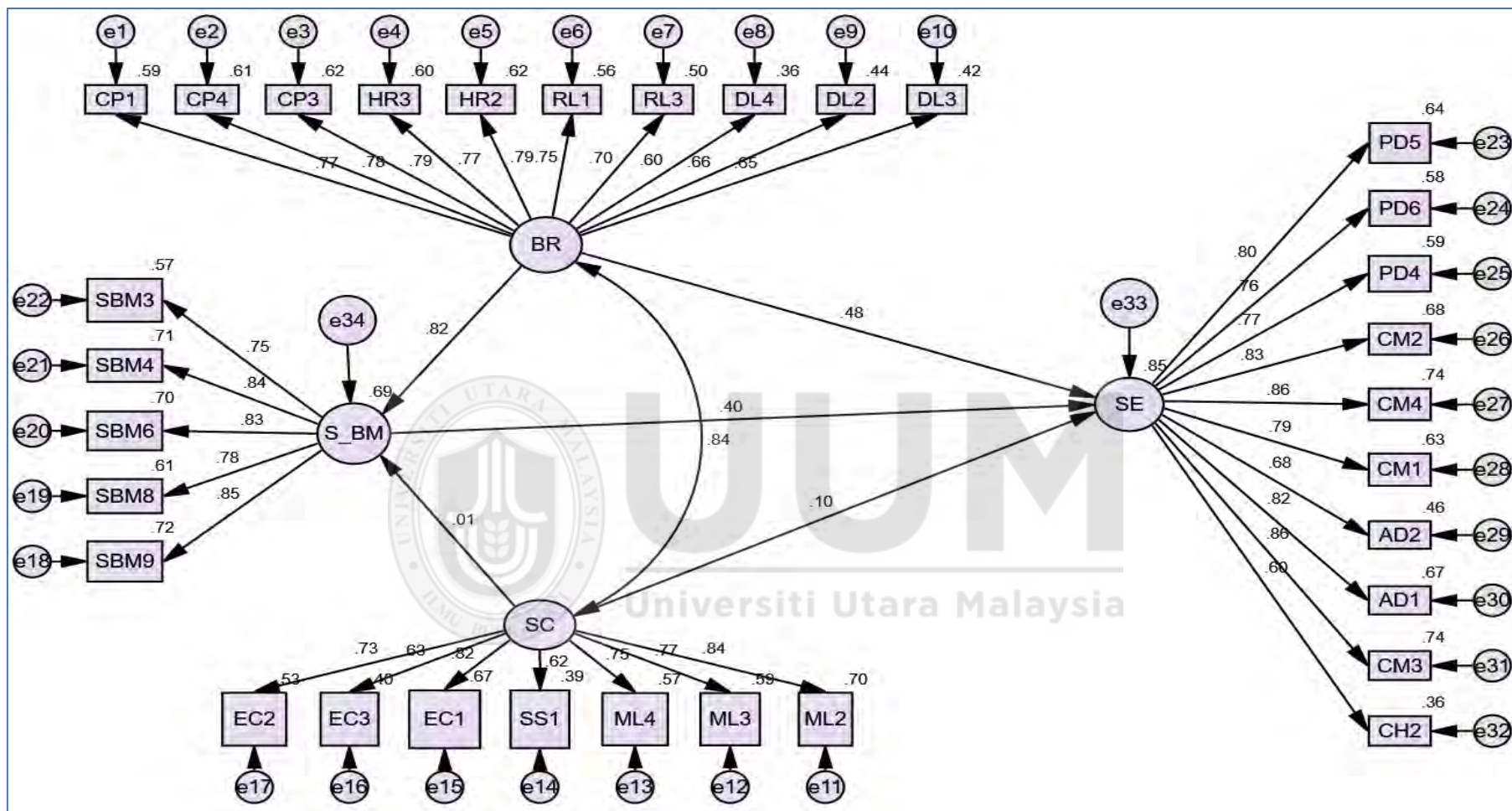
Figure 4.8. Final Structural Equation Modelling for School Climate, Bureaucracy, School-Based Management and School Effectiveness in Nigeria secondary schools.

The standardized regression weight of the estimated β score in the model indicated that, when bureaucracy goes up by 1 unit, school effectiveness goes up by β value of 0.48 having a standard error of about 0.097; when school climate goes up by 1 unit, school effectiveness increased by β value of 0.10 with stand error of about 0.063. Also, school effectiveness increased by β value of 0.40 when school-based management goes up by 1 unit with approximate standard error of about 0.054, school-based management goes up by β value of 0.82 when bureaucracy increased by a unit with standard error of about 0.123, while school-based management increases by β value of 0.01 when school climate goes up by a unit with standard error of 0.103.

To this end, 85% of the performance of school effectiveness could be predicted by using three exogeneous variables of school climate, bureaucracy and school-based management in the model. In the same vein, 69% of school-based management could be estimated using the latent construct of bureaucracy and school climate. The assessment was grounded on the estimated β score of path coefficient with t-value (Critical Ratio – CR) ≥ 1.96, and the P-value of ≤ 0.05 in deciding the significance path coefficient between the exogenous and endogenous variables (Bryne, 2001).

Table 4.22

Standardized direct effect of school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools.

	Hypotheses	Paths	Standardized (β)	S.E.	C.R. (t-value)	P Value	Decision
H1	There is no significant effect of bureaucracy on school-based management in Nigeria secondary schools.	BRY→SBM	1.064	0.123	8.656	***	Rejected
H2	There is no significant effect of school climate on school-based management in Nigeria secondary schools.	SC → SBM	0.015	0.103	0.149	0.882	Failed to Reject
H3	There is no significant effect of bureaucracy on school effectiveness in Nigeria secondary schools.	BRY → SE	0.525	0.097	5.402	***	Rejected
H4	There is no significant effect of school climate on school effectiveness in Nigeria secondary schools.	SC → SE	0.098	0.063	1.556	.120	Failed to Reject
H5	There is no significant effect of school-based management on school effectiveness in Nigeria secondary schools.	SBM → SE	0.342	0.054	6.382	***	Rejected

Note: Hypothesis is rejected if P value is less than 0.05 (p<0.05)

4.8.3 Testing for Mediation

In this model, the direct effect of bureaucracy on school effectiveness is estimated at β = 0.48, the indirect effect which is the multiplication of both indirect paths is (0.82 x 0.40) equal to 0.33 leaving the total effect (indirect + direct) at 0.81. Although, the direct path of bureaucracy → school effectiveness is supported, the two indirect paths (bureaucracy → school-based management and school-based management → school effectiveness) are also significant. Although, the indirect effect of 0.33 is less than the direct effect of 0.48, all the paths were significant (p<0.05), therefore, a partial mediation occurs since both direct and indirect effects are still significant after mediation.
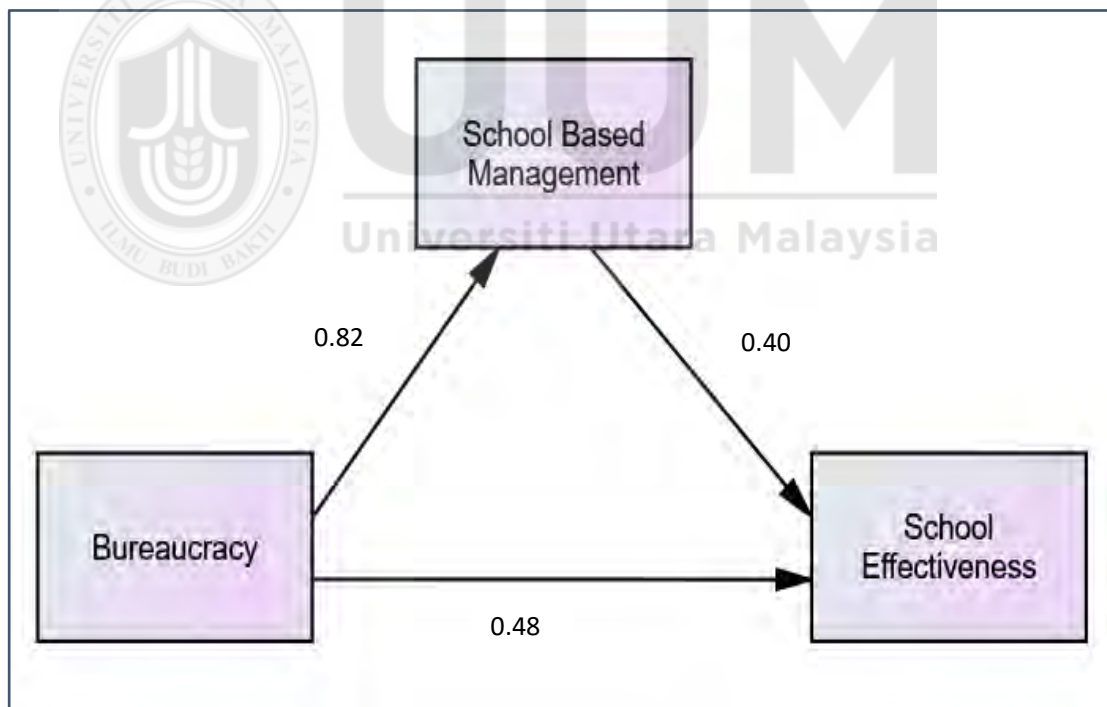
Figure 4.9.   Mediation Analysis of School based management on bureaucracy and effectiveness in Nigeria secondary schools

4.8.4 Testing for Mediation of school climate on school-based management and school effectiveness

In this model, the direct effect of school climate on school effectiveness is estimated at $\beta = 0.10$, the indirect effect which is the multiplication of both indirect paths (school climate school → based management, and school-based management → school effectiveness is 0.01 x -0.40) equal to 0.004 leaving the total effect (direct + indirect effect) at 0.10. Although, the direct path of school climate → school effectiveness is not supported, one of the two indirect paths (school-based management → school effectiveness) is significant while the other path is insignificant.

However, the indirect effect of 0.004 is less than the direct effect of 0.10 and one path of the indirect effect is not significant (school climate → school-based management), therefore no mediation occurs since the direct effect is still insignificant after mediation. This finding disproves the submission of Thapa et al (2012) and Guo (2012) that school climate is an imperious feature in the implementation of school reform and improvement; hence, teachers' perception of school climate positively influences the successful implementation of school-based management and school developmental programs.

Also, Ho (2005) examined the role of school climate as a mediating variable between decentralization and performance using students' morale and behaviour, sense of belonging and disciplinary climate. The findings revealed that school autonomy has no effect on student performance, but a significant impact exists on teacher participation on school governance and students' performance in mathematics.
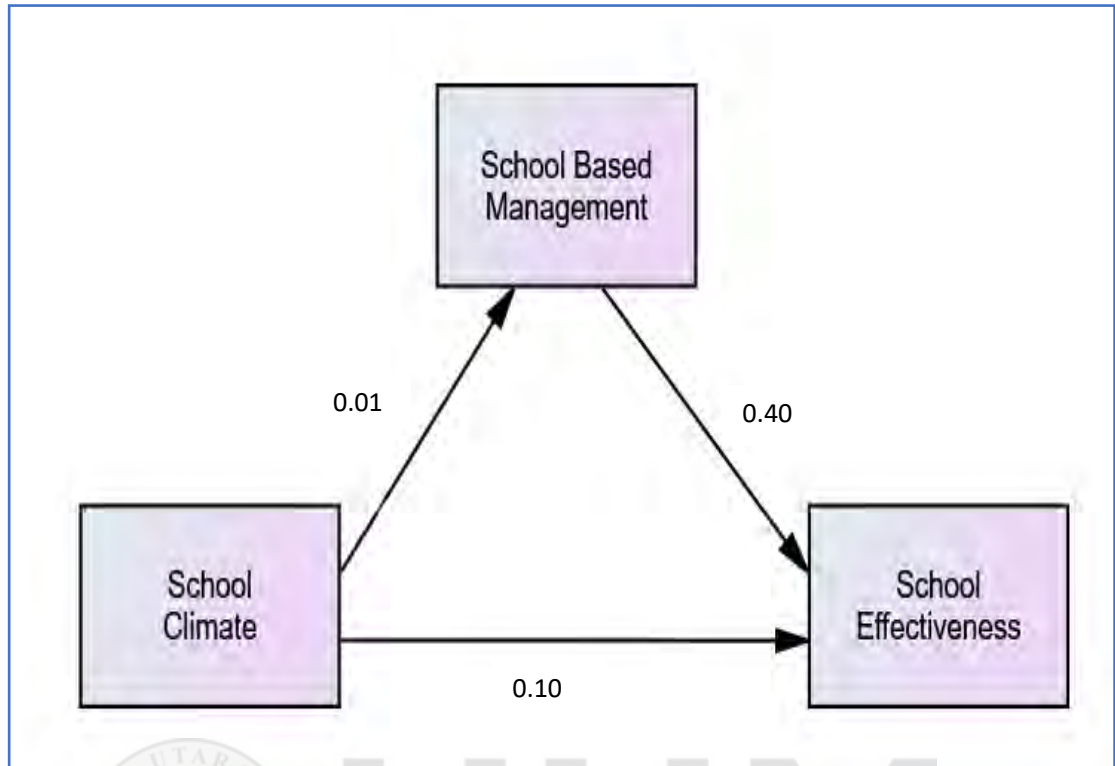
Figure 4.10. Mediation of school-based management on school climate and school effectiveness in Nigeria secondary schools.

Table 4.23

Direct, Indirect and Total effects of school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools.

Exogenous	Mediation	Endogenous	Path	Estimate (β)			Effect	Decision
				DE	IE	TE		
Bureaucracy	-	School Effectiveness	Bureaucracy → School effectiveness	0.48	-	0.48	Direct	**Rejected**
Bureaucracy	-	School-Based Management	Bureaucracy → School-Based Management	-	0.82	0.82	Indirect	**Rejected**
-	School-Based Management	School Effectiveness	School-Based Management → School effectiveness	-	0.40	0.40	Indirect	**Rejected**
Bureaucracy	School-Based Management	School Effectiveness	Bureaucracy → School-Based Management → School effectiveness	0.48	0.33	0.81	Mediation	**Partial Mediation**

Table 4.23 continued

School Climate	-	School Effectiveness	School Climate → School effectiveness	0.10	-	-	Direct	**Failed to reject**
School Climate	School Based Management	-	School Climate → School Based Management	-	0.01	-	Indirect	**Failed to reject**
School Climate	School Based Management	School Effectiveness	School Climate → School Based Management → School effectiveness	0.10	0.00	0.10	Mediation	**No Mediation**

4.8.5 Discussion of Findings

The estimate of regression path for standardized β value on the effect of bureaucracy on school-based management is 0.82 while the critical ratio and probability score (p-value $\leq$ 0.05 is 0.00) for hypothesis one. Since the standardized path coefficient of 0.82 is significant, the probability of getting a critical ratio as large as 8.65 in absolute value is less than 0.05. In other words, the regression weight for Bureaucracy in the prediction of school-based management is significantly different from zero at the 0.05 level of significance.

The findings however suggested that there is a positive significant effect of bureaucracy on school-based management. However, the finding is consistent with the study of Pomuti and Weber (2012) on decentralization and school management in Namibia, where education ideologies were categorized as bureaucratic, managerial, and authoritarian; bureaucracy was found to play a significant role in Namibia Cluster-based school management.

Similarly, the hypothesis which established the effect of school climate on school-based management have an estimated value of 0.10 with p-value 0.88 which is >0.05 (P<0.05) signifying that the hypothesis is not supported. Since the standardized path coefficient of 0.10 and Critical ratio of 0.149 is not significant, the probability of getting a critical ratio as large as 5.718 in absolute value 0.94 which is < 0.05. In other words, the regression weight for school climate in prediction of school-based management is significantly different from zero at the 0.05 level of significance. Therefore, the result is not supportive of the hypothesis.

The third hypothesis tested the effect of bureaucracy on school effectiveness and revealed a standardized path coefficient of 0.48, thus, the probability of getting a critical ratio as large as 5.40 in absolute value is less than 0.05. In other words, the estimated β value for bureaucracy in the prediction of school effectiveness is significantly different from zero at the 0.05 level of significance. Therefore, the result is supportive of the hypothesis. The finding is consistent with the submission of Hoy and Sweetland (2001); Ravitch (2010); Saltman (2016); Smith and Larimer (2004) that an enabling bureaucratic school structure support teachers, encourages openness and proficiency, positive school outcome and allow them to solve problems affecting them.

The hypothesis that tested the effect of school climate on school effectiveness revealed value of 0.10, thus, the probability of getting a critical ratio as large as 1.55 in absolute value is 0.120. In other words, the regression weight for school climate in predicting school effectiveness is not significantly different from zero at the 0.05 level. Therefore, the result is not supportive of the hypothesis. Although, this finding negates the assertion of previous findings Adeogun and Olisaemeka (2011); Othman and Kasuma (2016); Thapa et al. (2013), this may be due to some unpredictability in the context of this research.

On the final note, the hypothesis that predicts the effect of school-based management and school effectiveness revealed a standardized path coefficient of 0.40 and critical ratio of 6.38, thus, the probability of getting a critical ratio as large as 6.38 in absolute value is .000. In other words, the regression weight for school climate in the prediction

of school effectiveness is significantly different from zero at the 0.05 level of significance. Therefore, the result is supportive of the hypothesis.

4.9 Summary and Conclusion

This chapter discussed and presented the technique, process and results of data analysis. This result of findings was presented using four comprehensive stages of analysis. Firstly, the data of the sampled population were described, examined, screened and cleaned to get rid of missing values, outliers and meet the required sample size for SEM using Kolmogorov-Smirnov and Shapiro-Wilk (K-S) tests of normality. However, out of the total number of 373 cases, only 350 cases were found to be suitable for the analysis.

The descriptive statistics on demographic variables of participants comprising of four profile items (gender, age group, qualification, year of service) were analysed using descriptive statistics in SPSS 23.0. Secondly, the data was subjected to factor analysis through principal component analysis in SPSS in order to reduce and eliminate redundant items from the questionnaire, reduce the questionnaire items and select the best items having higher loading from all the instruments using principal component analysis.

Thirdly, the measurement model was established through confirmatory factor analysis to ascertain how fit the model is with the sampled data. Although there are no unanimously agreed fitness indexes to report in a study, Awang (2016) and Hair et al. (2010) recommended using at least one from all categories of the model fit (absolute,

parsimonious and incremental fits). In spite of this, Bryne (2010) posited that fitness indices alone may not probably enclose the usefulness and adequacy of a model fits to its sample data, rather assessing model fit should be based on multiple criteria that reflects theoretical, statistical and practical considerations.

The confirmatory factor analysis for the specified models of school climate (ecology, milieu, social system, culture); bureaucracy (division of labour, hierarchical rule, impersonality, competence); school-based management and school effectiveness (productivity, adaptation, cohesiveness, commitment) were carried out to ascertain that all dimensions of constructs are true measure of the endogenous variables. These was carried out on each construct to confirm the dimensions are true measure of the variables.

Thereupon, the Structural Equation Modelling (SEM) was conducted following two stages as recommended by Byrne (2010). The measurement model was done by subjecting the data to CFA using AMOS 23.0 software in order to test the constructs for good fitness indices such as χ^2/df, CFI, GFI, AGFI, TLI, NFI, and RMSEA among others for all models. All procedures followed in the development and modification of the models were described in this chapter. Subsequently, the SEM was conducted to test the hypothesized model designed for this study through path analysis. The final result from the hypotheses revealed that from the seven hypotheses, four were supported by the findings and the other three were not supported.

From the result, the hypothesis specifying a significant positive direct effect of bureaucracy on school effectiveness with p value = 0.000 which is less than > 0.05 indicated a positive effect. The direct effect between bureaucracy and school-based management with p-value of 0.00 (< 0.05) showed a positive effect. The variable of school-based management on school effectiveness is supported in this study while bureaucracy towards school effectiveness with mediation of school-based management in this study revealed a positive significant effect with p-value of 0.00 (<0.05).

However, other paths showed an insignificant effect of school climate on school-based management (p value = 0.88 > 0.05) and school climate has insignificant effect on school effectiveness (p value = 0.12 > 0.05), and school climate to school effectiveness with the mediation of school-based management shows no significant effect. Consequent upon this result, the three hypotheses were rejected. Hence, this section presented a systematic analytical method in fulfilling the objectives of this study. The next chapter is the concluding part of this study. It will therefore give brief discussion on the summary of the discussion in this chapter and further appraise the objectives and implication of this study.

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1   Introduction

This chapter is the concluding section in this study. It reviews the findings and summarizes the results obtained as reported in the previous chapter of this study. It gives a comprehensive discussion of the result of findings of this research study as premised upon the proposed research objectives. The fundamental objective of this study was to examine the effect of school climate and bureaucracy on school effectiveness through the mediation of school-based management using a confirmatory cross-sectional approach of structural equation modelling to respond to the survey which was primarily administered on 350 teachers from secondary schools in Kwara State, Nigeria. Moreover, this chapter presented the summary of the detailed discussion on the findings of this research, limitations, directions for future research as well as the recommendations were all emphasized in this section.

5.2   Appraisal of Research Objectives

This study involved an empirical examination of the effect of school climate and bureaucracy on school effectiveness through school-based management.   In order to fulfil this objective and provide empirical evidences on the relationships existing among school climate, bureaucracy, school-based management, and school effectiveness; the following questions were raised to guide and reflect the objectives of this study:

i.   What are the teachers' perception on school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools?

ii.   Are the constructs of school climate, bureaucracy, school-based management and school effectiveness valid, reliable; and meet SEM's model-fit indices minimum requirements?

iii.   Does school climate significantly influence school-based management in in Nigeria secondary schools?

iv.   Does bureaucracy significantly influence school effectiveness in Nigeria secondary schools?

v.   Does school climate significantly influence school effectiveness in Nigeria secondary schools?

vi.   Does school-based management significantly impact on school effectiveness in Nigeria secondary schools?

vii.   Does school-based management functions as a mediating factor in relationship between bureaucracy and school effectiveness in Nigeria secondary schools?

viii.   Does school-based management do function as a mediating factor in relationship between school climate and school effectiveness in Nigeria secondary schools?

Towards accomplishing the purpose of this research study, a structured review of literature was conducted by the researcher in chapter and guided by a structural model and theoretical framework. Fundamentally, this study was based on the social systems theory, and several other suitable theories were further explored to evaluate the internal aspect of the school and to support this study. However, in responding to the research questions formulated in this study, empirical evidences were provided to

describe the relationship between the exogeneous and endogenous variables as reported in chapter two upon which seven hypotheses were proposed and tested in this study as anticipated in the theoretical background.

The objectives were established as hypotheses based on the literature. In achieving this, bureaucracy was measured by adopting the theory of Max Weber (1947) using the dimensions of division of labour, hierarchical rules, Impersonality, and competence; the school climate was examined through the submission of Taguiri (1968) which include ecology, milieu, social system and culture. Furthermore, school effectiveness is commonly measured with academic outcome by many previous research studies, while lesser attention was given to other contextual factors that measures effectiveness in school. In this study, school effectiveness was categorized into adaptation, productivity, cohesiveness and commitment (Parson, 1961).

A quantitative method of the survey type was used to obtain data through questionnaire to test the hypotheses. The instrument was personally administered to respondents with the help of two research assistance and a letter conveying the main purposes of conducting this study. The questionnaires were distributed among 400 teachers in secondary schools across Kwara State, Nigeria. The data was analysed using two statistical software packages of SPSS 23.0 and AMOS graphic 23.0 to test the proposed hypotheses. The analyses which were related to the anticipated hypotheses and structural model and were presented with further discussions and obtained results were further presented in this study.

5.2.1 Research Objective One: To examine the teachers' perception of school climate, bureaucracy, school-based management and school effectiveness in Nigeria secondary schools

The first objective is to examine the perception of teachers towards the variables of school climate, bureaucracy, school-based management and school effectiveness among secondary school teachers. Their perceptions as revealed from the descriptive analysis showed that, even though many school lack resources needed to do their job; nevertheless, there is constant collaborations among teachers and students, while teachers' efforts are recognized by principals in many schools. Similarly, bureaucracy is strictly enforced and practiced in many schools, as evidenced in their reactions to the questionnaire items which revealed that, operating procedures in schools are strictly followed by many of the teachers. Finally, many of the teachers are committed to the discharge of duties in their work place, as they want to be associated with their schools and therefore found the schools suitable for work.

5.2.2 Research Objective Two: To examine whether the constructs of school climate, bureaucracy, school-based management and school effectiveness valid, reliable; and meet SEM's model-fit indices minimum requirements.

Essentially, the second objectives of this study were to find out if the measure of all constructs were valid and reliable; practically, it tests whether the underlying constructs of school climate, bureaucracy, school-based management and school effectiveness are true measure of their respective predictive variables. In relation to this specific question asked on whether the determinants of the latent constructs of

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school climate, bureaucracy and effectiveness are valid and reliable; all the constructs were found to be valid and reliable in their respective measurement; hence all the indicators of school climate, bureaucracy and effectiveness were found to reflect their respective constructs.

Regarding the constructs of school climate, its measure as used in this study was grounded on four sub-scales of ecology, milieu, social system and culture based on the organizational climate framework of Taguiri (1968) as Anderson (1982) and Wilson (1987) found that all school climate research could fit within this framework. In this study, the model adequately fits the determinants used to reflect this construct; indicating that, ecology, milieu, social system and culture are all valid and reliable. Thus, it adjudges that the underlying factors all reflects school climate.

Similarly, the determinants of bureaucracy reflect the constructs; hence, division of labour, hierarchical rules, impersonality and competence. Also, school effectiveness constructs of adaptation, productivity, cohesiveness and commitment were also valid and reliable; while school-based management construct is also valid and reliable. The results computed during the confirmatory factor analyses reflected the goodness-of-fit indices, which include the chi-square with its relative values of (CMIN/df), CFI, GFI, AGFI, TLI, NFI and the RMSEA. The relative values (x^2/df) as combined with the results of other fitness indices for all the four constructs of school climate, bureaucracy, school-based management and school effectiveness indicated a satisfactory model fit.

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Table 5.1

Summary of model fit as indicated by the fit indices

Model/Fit Index	x^2/df	CFI	GFI	AGFI	TLI	NFI	RMSEA
School Climate	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bureaucracy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
School-Based Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes
School Effectiveness	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The above table 5.1 shows that all of the fitness indexes were satisfactory for all models as the CMIN, Goodness of fit Index (GFI), baseline comparison indices (NFI and CFI) and RMSEA shows that the results from the fit indices for all the four constructs indicate a satisfactory model fit.

5.2.3 Research Objective Three: To examine whether bureaucracy significantly influence school-based management in Nigeria secondary schools.

The third aim of this study was to examine if bureaucracy significantly influence school-based management in Nigeria Secondary schools; hence, it was hypothesized that bureaucracy has no effect on school-based management in Nigeria secondary schools. The results of the SEM showed that bureaucracy has a positive significant effect on school-based management. This indicated that bureaucracy predicts school-based management in Nigeria secondary schools. This finding is consistent with the study of Pomuti and Weber (2012) on decentralization and school management in

Namibia, whereby bureaucracy was found to play a significant role in Namibia Cluster-based school management.

5.2.4   Research Objective Four: To examine whether school climate significantly influence school based-management in Nigeria secondary schools

The hypothesis which stated that there is no significant effect of school climate on school-based management in Nigeria secondary schools was confirmed with the findings of this research as there were substantial evidences from the result to accept the hypothesis.

5.2.5   Research Objective Five: To examine whether bureaucracy significantly influence school effectiveness in Nigeria secondary schools

It was hypothesized in this study that, there is no significant effect of bureaucracy on school effectiveness.   The outcomes revealed that bureaucracy had a significant positive effect on school effectiveness in Nigeria secondary schools.

This is in line with the submission of Kean, Kannan and Piaw (2017) which was conducted in Malaysian secondary schools to ascertain the effect of bureaucracy on leadership practices and teacher commitment; that school bureaucracy gives a clearer focus on procedural specifications towards ensuring smooth running of secondary schools in Malaysia. Furthermore, findings of several studies supported this result (Hoy and Sweetland 2001; Smith & Larimer, 2004; Krueathep, 2008). It is therefore believed that school effectiveness could be fostered when there is a positive bureaucratic atmosphere in schools.

5.2.6 Research Objective Six: To examine whether school climate significantly influence school effectiveness in Nigeria secondary schools

The hypothesis which stated that, there is no significant effect of school climate on school effectiveness in Nigeria secondary school was confirmed with the findings of this research as there were substantial evidences from the result to accept the hypothesis. Although, report of several other studies and theories (Bradshaw et al., 2014; Ho, 2005; Mitchell et al., 2010; Smith et al., 2014; Wang et al., 2014) of school climate and effectiveness do not align with the results of this study, this current study found that school climate has no effect on school effectiveness in the case of Nigeria secondary schools.

5.2.7 Research Objective Seven: To examine whether school-based management significantly influence school effectiveness in Nigeria secondary schools

It was hypothesized that there is no significant effect of school-based management on school effectiveness in Nigeria secondary schools. The result of the SEM findings here revealed that school-based management indicated a positive significant effect on school effectiveness. This is in support of the submission of Gaziel (1998) and Cheng (1996) that school based management is a crucial factor in determining the teachers' motivation, commitment and effectiveness in school.

5.2.8 Research Objective Eight: To examine whether school-based management functions as a mediator in the effect of bureaucracy and school effectiveness in Nigeria secondary schools

The mediating hypothesis stated that school-based management functions as a mediator in the relationship between bureaucracy and school effectiveness. Although, the earlier findings of findings of the effect of bureaucracy on school effectiveness signifies a positive and significant effect; another essential path in model which tests the effect of school-based management on school effectiveness further confirmed the hypothesis to be significant. In assessing the mediating effect, the paths have shown that school-based management significantly mediates the relationship between bureaucracy and school effectiveness (p-value < 0.05) showing a positive effect.

5.2.9 Research Objective Nine: To examine whether school-based management functions as a mediator in the effect of school climate and school effectiveness in Nigeria secondary schools

On the other hand, the hypothesis which stated that there is no significant mediating effect of school-based management on school climate and school effectiveness in Nigeria secondary schools is not supported in this study as both paths which assess the effect of school climate on school- based management (p-value = 0.88) and school effectiveness (p-value = 0.12) are not significant. Therefore, of all the hypotheses formulated in this study, only four were supported with the findings of this study while the remaining were not supported.

5.3 Research Contributions and Implication

Particularly, this research tested seven hypotheses thereby focusing on the effect of school climate, bureaucracy, school-based management on school effectiveness in Nigeria secondary schools. However, this study will be incomplete without highlighting its precise contributions and actual implications. This according to Hallinger (2011) should contribute to body of knowledge with more emphasis on the theoretical contributions, methodological contributions and practical contributions. This section therefore, explains the theoretical, methodological and practical contributions of this research as evident from the empirical investigations. The implication presented will serve as a robust and thoughtful understanding to practitioners in the field of educational management as earlier mentioned in this study, particularly to the Nigeria secondary schools in general.

5.3.1 Theoretical Implication

Fundamentally, this study offers a substantial evidence for the application of system as the supporting theory, specifically in the context of secondary school settings. For instance, it is in line with Taguiri (1947) conceptualization of the construct of school climate which comprises of ecology, milieu, social system and culture; bureaucracy as described by weber (1947) to include division of labour, hierarchical rule, impersonality and competence, thus providing a suitable and appropriate framework in describing the exogenous variables. Likewise, it offers a precise background in relating the mediating and endogenous variables of school-based management and school effectiveness respectively.

This research study examined the effect of school climate (as anticipated by Taguiri 1968) and bureaucracy (as anticipated by Weber 1947) on school effectiveness (Parson 1951). Theoretically, this research provided an impetus into the theory of school climate and bureaucracy in prediction of school effectiveness in Nigeria secondary schools. However, in a study conducted by Anderson (1982), the reviewed literature revealed that many previous research studies has been done on school climate yet many studies commonly focus on few dimensions Anderson and Walberg (1978); Croft and Halphin (1962); Sinclair (1970) and Mitchell (1968) and ignored other environmental characteristics found within an organization. Thus, this research study contributes to the existing body of knowledge by confirming the categorization of school climate as an entire attribute of the school system.

Additionally, considering past research studies, disagreeing literatures emerged on the study of bureaucracy in school as its consequences was perceived to have two sides: 'the dark and bright sides'. That is, the dark side is perceived to hinders creativity and brings dissatisfaction among workers while the bright side alleged that bureaucracy clarifies responsibilities and in turn gives guide to workers to be more effective in their jobs. The contribution of this research study has given a clearer understanding and expanded the theory on bureaucracy as a bright side in schools. This supports the submission of Krueathep (2011) that, jettisoning school bureaucracy may not bring positive outcomes as many advocates argued.

The findings of this study have validated the need for bureaucracy in public secondary schools and equally reveal the underlying activities in the school which can help

evaluate the strategies to be used for positive outcome. It has further proven that, even though climate is important, the composition and structure of schools differs in Nigeria context. Although there has been a disparity in the outcome of previous researches conducted in this area, none of the studies have been able to link the variables under study together, especially in the Nigeria context.

Furthermore, this study tested the mediating effect of school-based management on the relationship between school climate, bureaucracy and school effectiveness because to the researcher's knowledge, this study is first of its kind as the researcher does not come across any studies that examined effect of this variables in Nigeria context. In consideration of this, it is imperative to note that, this study contributes by combining the hypothetical approaches from existing theories, to test a new model. The contributions would accordingly be widened both in the theoretical aspect as well as in literature. Consequently, the results from this present study would be a significant contribution due to its links between bureaucracy and school effectiveness; bureaucracy and school-based management; school-based management and school effectiveness (as partly mediating the relationship between bureaucracy and school effectiveness) as presented in chapter four Tables 4.22 and 4.23.

Indisputably, previous studies have recognised the significance of school climate for several decades as it was revealed by Tubbs and Garner (2008) to affect school and people within it. Nevertheless, Kokir (2014) submitted that, even though school climate significantly influences academic achievement, it however depends on the composition and structure of school, which differs amongst schools within the

community. The findings on school climate and school effectiveness in this study is significantly different compared to previous research findings; in some developing country perspectives, this may be due to variances in terms of cultural background, context and level of development and experience.

Hence, this study has addressed the gap identified by Ogaz (2016) who suggested that school climate should be theorized as a diverse social related effects functioning in a complex setting with multiple variables mediated and linking them in order to specify theory driven-models of different school outcomes. Therefore, the findings of this study would be made known to the education practitioners locally and internationally through publications in seminars and conferences on secondary education, school organization as well as areas of educational administration and planning. This would give an insight and depth understanding into the co-published articles in academic journals globally.

5.3.2   Practical Implication

Practically, this research offered new perceptions and approaches into the determinants of effectiveness in secondary schools. In the school settings, many research studies disprove that bureaucracy contribute to effectiveness (Scott, 1992; Biddle, 1995). The findings of this study negate this believe as results obtained supported the view of bright side of bureaucracy and thus implies that, an enabling bureaucracy is required among employees in a formal setting like secondary school to strengthen administrative practices and attainment of school goals; therefore,

separation of bureaucracy from a formal setting may be impossible or problematic (Mintzberg, 2013).

However, the practical implication of this study will be directed to all stakeholders in the education settings who function as key actor in ensuring effective and smooth running of secondary schools. These include but not limited to teachers, school leader (principals), parents, hosting community members, administrators whose functions lies across schools, local education authorities, and policy makers (government). Primarily, the findings of this current study attested to the importance of bureaucracy among secondary school teachers.

Hence, it would give a clearer view to educational administrators on better ways of coordinating the secondary school system to enhance efficiency and effectiveness, that is, it would contribute significantly to the smooth operation of secondary schools in Nigeria. Similarly, it would give a clearer direction to teaching staff on the need for conformity, equal participation, maintaining and sustaining orderliness in school as bureaucracy bring about stability in the system.

Therefore, secondary school teachers should not see bureaucracy as an infringement on their professional autonomy but a means to promote and strengthen best practices that will reflect the existing procedure and further facilitates their job performances. Additionally, for the school climate, much emphasis was earlier placed on it as a predictor of school effectiveness based on many previous research studies, however, finding of this current study is divergent to the previous hypothesis. Even though it is

important to set the pace for smooth operation in the school, there are good reasons to expect positive outcomes especially under certain circumstances.

This research will have a significant impact on school leaders as the major stakeholder in the administration of secondary school to undoubtedly recognize and appreciate the need for proper coordination of academic and administrative activities for smooth operation of the system within the school, since he functions as the chief administrator who set the stage for all other concerned members in the school. Additionally, this study has been found to be essential to other stakeholders like parents and community members, especially where the school is sited. It would give members of the society especially parents a sense of belongingness and make the, more responsive to the pressing demand of the schools in their immediate environment and that of their wards. It will also give more understanding on how best to strengthen the internal system of the school and give a clearer direction for raising their wards' performances and for better productivity as the study confirmed that school-based management facilitates the relationship between bureaucracy and school effectiveness.

On the final note, policy makers in education sector will be able to identify possible important directions essentially required for school improvement and understand better the situation in secondary schools. This will provide them with more insight on the need for considerable shift in policy formulation strategies and implementation. Thus, it would be an eye-opening for government to be able to clearly distinguish the determinants of effectiveness across all levels of education especially secondary schools. Equally important, this study would serve as a platform to reinforce

government efforts towards school effectiveness. It would be a means through which government can get feedback on the level of policy implementation in secondary schools.

5.3.3 Methodological Implication

Fundamentally, criteria problem has been an obstacle to the empirical assessment of effectiveness as there are no clearer and consistently acceptable guideline for evaluation, that is, effectiveness is usually ambiguous and sometimes lead to uncertainties in interpretation of research outcomes (Cameron, 1984; Cameron and Whethen, 1996; Botha, 2010). Nevertheless, student academic performance has continued to dominate school effectiveness research has many previous studies focus mainly on learners' progress and academic outcomes as a measure of school effectiveness while other contributing factors were ignored; this according to Gray (2004) do not give a complete depiction of effectiveness of a school. This study assessed effectiveness in an attempt to revolve round the models of school effectiveness.

Even though many study on effectiveness use quantitative research design, the instruments used in this study were adapted from various sources and different contexts subjecting the instruments to a confirmatory approach to measure the construct validity and its reliability. This contributes to the methodology by developing a construct measure using 7-point Likert scale validating the constructs and instruments using different statistical techniques. The measures in the model were also contributory findings which were all well-structured and fit to the data and theory,

and further affirmed that the factors were valid and reliable as clarified in the model particularly in a developing country context.

Additionally, this research study uses Structural Equation Modelling (SEM) which has been adjudged as a valid and more reliable method for modelling with the integration of several theories and model (Taguiri, 1968; Weber, 1947; Gamage, 1996; Parson, 1961) to examine the effect of school climate, bureaucracy and effectiveness with the analysis of school-based management as the mediating factor. Subsequently, SEM was used to simultaneously estimate the interrelationships between the determining variables (school climate and bureaucracy), its latent constructs and the predicting variable (school effectiveness).

5.4   Research Limitation

Despite several significant contributions of this research to the body of knowledge on the mediating effect of school-based management on the relationships between school climate, bureaucracy and effectiveness in Nigeria secondary schools, this study has quite a few restrictions which would lead to further research opportunities in the areas of school administration. Primarily, this research study focused mainly on Kwara State secondary schools and the sample was limited to teachers of public schools who are participants in this study, therefore, the findings cannot be generalized to other private owned schools, primary or tertiary institutions and Nigeria as a whole.

Operationally, it implemented a cross-sectional examination of the survey type which relied on predisposition of participants on the reported data to gather information. This

only provided a slight touch than a complete description of the mediating effect of school-based management on school climate and bureaucracy on school effectiveness; which may however also not reflect the changing situation over an extended period. Likewise, the focus and dimensions used in this study are different from many previous studies, thus, it might not be inclusive enough to describe the constructs and be generalized to other contexts.

Besides, the constructs in this study were examined without relating any of the dimensions to the other but focus more on how these factors are related to its respective unobserved variables and hence relate exogeneous variables to the endogenous.

5.5   Conclusion

The core purpose of this study was to examine the mediating role of school based-management on the impact of school climate and school bureaucracy on school effectiveness in the context of Nigeria secondary schools. The study modified and utilized already established instruments as used in previous research studies.

Firstly, the instrument was adapted from the work of Ruane (1995) and Coughlan (1970) which surveyed some fundamental elements of Taguiri Taxonomy of school climate. The original questionnaire is a multi-method approach to measure school climate through ecology, milieu, social system and culture; comprised of severally worded items statements designed for teachers, students and school directors, many of which were not required in this current research context and were later modified using a seven-point Likert-scale, thus, reducing the number of questionnaire items.

Secondly, the questionnaire on School Organization Inventory was adapted from Mackay and Robinson (1966) and was used to examine second exogenous variable of bureaucracy. The initial SOI contains 48 items through a five-point Likert response ranging from always true (1) to never true (5) clustered into five features comprising of division of labour, hierarchy of authority, rules, impersonality and competences. The last set of questionnaires were adapted from the study of Bandur (2008) and Hoy & Ferguson (1985) to examine the perception of teachers on school-based management and school effectiveness respectively.

All instruments were reviewed, and the last version of the questionnaires was personally distributed among secondary school teachers in Kwara State with the help of two research assistance. Each statement was anchored using a seven-point Likert-scale whereby *1 represents "Entirely Disagree", 2 represents "Mostly Disagree", 3 stands for "Somewhat Disagree", 4 stands for "Neither Agree nor Disagree", 5 represents "Somewhat Agree", 6 represents "Mostly Agree", and 7 represents "Entirely Agree"*. The study utilized SPSS Version 23.0 and AMOS Graphic Version 23.0 to analyse data and test the relationships among the variables.

In relating to the fitness of the proposed model in this study, the model satisfactorily fits the observed data for the sample size. Even though the findings of this study partly supported the model as revealed, where school-based management partly mediates the relationships between bureaucracy and school effectiveness, this can significantly

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increase the administration's ability to collectively address to the individual members' interest and further strengthen the proficiency of the school system.

The results of this study equally provided evidences to negate the hypotheses which stated that school-based management perform a significant role in mediating the effects of school climate on school effectiveness. This finding does not support the notions that school climate is a significant feature in the process of successful implementation of school reforms and improvement as earlier revealed that teachers' perspicacity of school climate has a great impact on their ability to implement school-based management and other developmental programs.

5.6   Recommendation for Future Research

As earlier mentioned, this research study was a cross-sectional survey type designed to investigate the mediating effect of school-based management on school climate, bureaucracy and school effectiveness in Nigeria secondary schools. To this end, future research study could be conducted by employing different methodologies like longitudinal study, case study or other qualitative approach different from this current study. This may give supplementary and broader perceptions into understanding the factors that contribute to effectiveness of secondary schools in Nigeria especially in Kwara State.

This present study failed to involve all other stakeholders who are key players in school administration as participants, which might not explore the over-all representation of school effectiveness in all ramifications. In other words, findings of

this study were based on the perception of teachers, therefore future research could be done to examine how students, principals and other stakeholders perceived the school effectiveness using the underlying variables. Although, there are more than a few number of latent variables in this study, it focused mainly on the variables of interest as earlier detailed in the research objectives. Hence, further studies could pay more attention to the dimensions to examine the influence and relationships existing across all other constructs as specified in this current study.

Even though significant findings have been gained based on the sample size of 350, a larger sample might allow for more established statistical analysis and give more statistical power. More so, the findings of this study revealed that school climate has no effect on school effectiveness, this could be clarified by future researches to know which supportive theory is more momentous in promoting effectiveness in Kwara State secondary schools. Also, other study could moderate and mediate exploring several other factors in determining the impact of the variables on the other.

Furthermore, this study was conducted in secondary schools in one State out of the various states across Nigeria, it is therefore anticipated that this study will be replicated in all other states, geo-political zones and entire nation as a whole to be able to depicts and generalize findings of this study to the entire nation. However, since bureaucracy has been perceived as a positive force needed in managing and solving multi-facet school problems Smith and Meier (1995) and Krueathep (2011), it cannot be completely rubbed out in education settings, particularly public and poor performing

schools. Therefore, this research study could be replicated in other countries of the world particularly the developing ones.

Finally, the reviewed literature in chapter three disclosed that, there are insufficient studies conducted in Nigeria on bureaucracy especially in secondary schools; this calls for directing forthcoming research studies this area. Even though the constructs in this study were confirmed to be valid and reliable in the present context, it remains uncertain unless supplementary verification is done in new research context. In the meantime, the findings of this study did not support the theory on school climate and school effectiveness, more research studies could be conducted on the same variables using different theories, population, sample sizes, and statistical tool to further substantiate or disprove the findings of this current study. This will however give an opportunity for additional validation in diverse contexts.
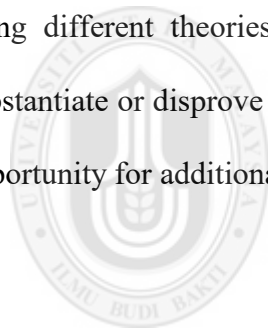
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Appendix A

Letter to Kwara State Government

The Honourable Commissioner.
Ministry of Education and Human Capital Development
Ilorin, Kwara State,
Nigeria.

Sir,

25 - 05 - 2016

REQUEST FOR DATA ON KWARA STATE SECONDARY SCHOOLS

With due respect sir, I humbly request for some important information that will aid/assist me in my research work from your Ministry.

I am currently a student of Universiti Utara Malaysia, conducting research on school climate, bureaucracy and school effectiveness in Kwara State Secondary Schools, Nigeria. The information required include:

- The organization and administrative structure of Kwara State secondary schools. This include how schools are organized, ways in which decisions are made, those involved in decision making as well as the communication pattern;
- Current educational policy formulated in secondary schools to aid school performance;
- Human resources in secondary schools (this include the number of teachers by local government);
- No of secondary schools in Kwara State.

NOTE: All information required for both junior and senior secondary schools in Kwara State.

I shall be glad sir, if my request is considered.

Thank you for your anticipated support

Yours Sincerely,

Habibat Abubakar Yusuf (900997)
Universiti Utara Malaysia

Appendix B

Response Letter from Kwara State Government

MINISTRY OF EDUCATION AND HUMAN CAPITAL DEVELOPMENT (MOEHCD)

HEADQUARTERS

P.M.B. 1391, ILORIN, KWARA STATE

Telegrams: SECEDUC   Telephone: 031 221161, 220401, 220351, 223101, 220373, 221549

Website: www.kwaraeducation.com

MOE/PRS/112/I/Vol.II

15ᵗʰ June 2016

Habibat, Abubakar Yusuf(900997)

Univerty Utara Malaysia

Sintok, Kenah.

Malaysia.

RE: REQUEST FOR STASTICAL DATA

Reference to your letter dated 15ᵗʰ June 2016 requesting for Data. We here by reference from 2014/2015 ANNUAL SCHOOL CENCUS REPORT with the following Data on public Secondary school in the state with a soft copy attached.

1. Senior Secondary Schools Data

2. Thanks for your cooperation.

Alu Temitope A.

For: Honorable commisioner

Appendix C

Letter of Introduction from UUM

Appendix D

Letter of Cooperation to Teachers

Universiti Utara Malaysia,

06010 UUM Sintok,

Kedah Darul Aman, Malaysia

Tel: (604) 9285299/5266/5251

Fax: (604) 9285297/5298

Dear Teachers

ACADEMIC RESEARCH QUESTIONNAIRE

I am a doctoral student from the school of education and modern languages, College of Arts and Sciences, Universiti Utara Malaysia and currently working on my PhD thesis titled "The mediating effect of school-based management on school climate, bureaucracy and effectiveness in secondary schools in Kwara State, Nigeria".

Please be assured that your responses will only be used for academic purpose. Hence, your identity will never be known throughout any part of the research process.

Thank you for taking your valuable time to fill in this questionnaire.

Yours Sincerely,

Habibat Abubakar Yusuf

(Research Student)
Awang Had Salleh Graduate School of Arts and Sciences
UUM College of Arts and Sciences
Universiti Utara Malaysia
06010 Sintok, Kedah Darul Aman, Malaysia
+601151152269

Appendix E

Research Questionnaires

Section A – Demographic Information

Kindly tick the appropriate information that fits your assessment.

(1)   Gender:

Male [   ]   Female [   ]

(2)   Age Group:

Up to 25years [   ]   26-45years [   ]   46-55years [   ]   56 years+ [   ]

(3)   Highest Academic Qualification:

NCE [   ]   ND [   ]   HND [   ]   Bachelor Degree [   ]

Master Degree [   ]   Others [   ]

(4)   How long have you been working as a teacher?

Up to 5 years [   ]   6-10 years [   ]   11-15 years [   ]

16-20 years [   ]   20 years + [   ]

Section B: Perception of teachers on school climate, bureaucracy, effectiveness and school-based management in Kwara State secondary schools, Nigeria.

The following are a few number of statements about observation of teachers towards school. Please rate your opinion on your perception on the statements. The responses ranges from entirely disagree (1), mostly disagree (2), somewhat disagree (3), neither agree nor disagree (4), somewhat agree (5), mostly agree (6) and entirely agree (7).

I.   School Climate

S/N	Items	Disagree – Agree						
		1	2	3	4	5	6	7
1	My school lacks materials needed to do my job effectively.	1	2	3	4	5	6	7
2	There is shortage of facilities.	1	2	3	4	5	6	7
3	The school lacks fund in introducing up-to-date materials.	1	2	3	4	5	6	7
4	Equipment are kept in usable condition.	1	2	3	4	5	6	7
5	My principal promote trust among staff	1	2	3	4	5	6	7
6	I show greater concern for other colleagues.	1	2	3	4	5	6	7
7	I am appreciated by other colleagues.	1	2	3	4	5	6	7
8	My mistakes are corrected by the principal.	1	2	3	4	5	6	7
9	The principal conveys clearer message to me.	1	2	3	4	5	6	7
10	I work together with other teachers	1	2	3	4	5	6	7
11	I socialise with other teachers outside school.	1	2	3	4	5	6	7
12	The principal checks my activities in the classroom.	1	2	3	4	5	6	7
13	I listen to student concerns in the classroom.	1	2	3	4	5	6	7
14	I monitor students' progress frequently.	1	2	3	4	5	6	7
15	The school emphasizes on showing respect for all students' cultural beliefs and practices.	1	2	3	4	5	6	7
16	I leave the school as classes finish.	1	2	3	4	5	6	7
17	The school formerly recognizes my effort.	1	2	3	4	5	6	7
18	The school review my work.	1	2	3	4	5	6	7

II.   **Bureaucracy**

Indicate the extent to which you agree to the statements about your activities in

school

S/N	Items	Disagree – Agree						
		1	2	3	4	5	6	7
1	I am over loaded with administrative responsibilities.	1	2	3	4	5	6	7
2	I am assigned to teach in my subject area.	1	2	3	4	5	6	7
3	I freely carry out my responsibilities in class.	1	2	3	4	5	6	7
4	Aside teaching, I carry out administrative work.	1	2	3	4	5	6	7
5	Arrival and departure time are strictly enforced.	1	2	3	4	5	6	7
6	I am being checked for rule violations.	1	2	3	4	5	6	7
7	I am not expected to leave school without permission.	1	2	3	4	5	6	7
8	I strictly follow school operating procedures.	1	2	3	4	5	6	7
9	I make my own decisions independently.	1	2	3	4	5	6	7
10	Written orders are followed unquestionably.	1	2	3	4	5	6	7
11	I get directives from my principal.	1	2	3	4	5	6	7
12	I am assigned subject without regard for my relevant teaching experiences.	1	2	3	4	5	6	7
13	I am encouraged to use various teaching methods.	1	2	3	4	5	6	7
14	Promotions are based on how well I do my job.	1	2	3	4	5	6	7
15	Past teaching experiences plays a large part in my assignment in this school.	1	2	3	4	5	6	7
16	I sponsor extra-curricular activities which I have no suitable background of.	1	2	3	4	5	6	7
17	Nothing is said if I get to school late.	1	2	3	4	5	6	7
18	I easily get discouraged when making decisions.	1	2	3	4	5	6	7
19	There isn't much chance for promotion unless you are "in" with the administration	1	2	3	4	5	6	7
20	I consider gravity of an offence while deciding on the appropriate penalty	1	2	3	4	5	6	7

III.   Effectiveness

What is the level of your agreement to the following statements?

S/N	Items	Disagree– Agree						
		1	2	3	4	5	6	7
1	I want to be identified with this school.	1	2	3	4	5	6	7
2	My school is a great place to work.	1	2	3	4	5	6	7
3	I am willing to put in significant effort in my work.	1	2	3	4	5	6	7
4	I use variety of teaching strategies to help student learn.	1	2	3	4	5	6	7
5	I use computer to strengthen my skills.	1	2	3	4	5	6	7
6	I encourage students to seek extra lesson to get better grades.	1	2	3	4	5	6	7
7	I work on development plan of this school.	1	2	3	4	5	6	7
8	The development plan improves my work.	1	2	3	4	5	6	7
9	I get suggestions on how to improve my teaching.	1	2	3	4	5	6	7
10	I work according to the school goals	1	2	3	4	5	6	7
11	Task oriented atmosphere is fostered in my school.	1	2	3	4	5	6	7
12	I accept changes.	1	2	3	4	5	6	7
13	I quickly adjust when changes are made.	1	2	3	4	5	6	7
14	Articulations with other schools are encouraged.	1	2	3	4	5	6	7
15	I cope with disruptions.	1	2	3	4	5	6	7
16	My suggestions are accepted by the school.	1	2	3	4	5	6	7
17	I am involved in school activities.	1	2	3	4	5	6	7
18	I participate in decision making at school.	1	2	3	4	5	6	7
19	I make informal contacts with other teachers.	1	2	3	4	5	6	7

IV. School-Based Management

What is the level of your agreement to the following statements?

S/N	Items	Disagree– Agree						
		1	2	3	4	5	6	7
1	My workload has increased significantly under the school council structure.	1	2	3	4	5	6	7
2	There are adequate provisions for me to seek help to reduce my work load.	1	2	3	4	5	6	7
3	I think school-based management is the type of reform that school needed for better quality and improvement of student achievement.	1	2	3	4	5	6	7
4	I have opportunity to seek advice and support from other stakeholders.	1	2	3	4	5	6	7
5	The school-based policies, programs and actions have significantly improved the student achievements.	1	2	3	4	5	6	7
6	The stakeholders' participation has improved my motivation.	1	2	3	4	5	6	7
7	I consider myself as a team member.	1	2	3	4	5	6	7
8	I discuss with the principal on the strategies to implement changes.	1	2	3	4	5	6	7
9	School based management has created higher participation of stakeholders leading to improve student achievements in school.	1	2	3	4	5	6	7
10	The changing school culture resulting from implementation of school-based management has improved student achievements.	1	2	3	4	5	6	7

Appendix F

Yamane (1967) Sample Size Table

Table 1. Sample size for ±3%, ±5%, ±7% and ±10% Precision Levels Where Confidence Level is 95% and P=.5.

Size of Population	Sample Size (n) for Precision (e) of:			
	±3%	±5%	±7%	±10%
500	a	222	145	83
600	a	240	152	86
700	a	255	158	88
800	a	267	163	89
900	a	277	166	90
1,000	a	286	169	91
2,000	714	333	185	95
3,000	811	353	191	97
4,000	870	364	194	98
5,000	909	370	196	98
6,000	938	375	197	98
7,000	959	378	198	99
8,000	976	381	199	99
9,000	989	383	200	99
10,000	1,000	385	200	99
15,000	1,034	390	201	99
20,000	1,053	392	204	100
25,000	1,064	394	204	100
50,000	1,087	397	204	100
100,000	1,099	398	204	100
>100,000	1,111	400	204	100

a = Assumption of normal population is poor (Yamane, 1967). The entire population should be sampled.

Appendix G

School Climate CFA Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	29	122.722	37	.000	3.317
Saturated model	66	.000	0		
Independence model	11	2055.242	55	.000	37.368

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.123	.940	.892	.527
Saturated model	.000	1.000		
Independence model	1.113	.340	.208	.283

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	.940	.911	.958	.936	.957
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.673	.633	.644
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.081	.066	.098	.001
Independence model	.323	.311	.335	.000

Bureaucracy

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	34	208.175	57	.000	3.652
Saturated model	91	.000	0		
Independence model	13	2643.290	78	.000	33.888

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.172	.918	.869	.575
Saturated model	.000	1.000		
Independence model	1.279	.286	.167	.245

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	.921	.892	.942	.919	.941
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.731	.673	.688
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.087	.075	.100	.000
Independence model	.307	.297	.317	.000

School Based Management

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	10	11.976	5	.035	2.395
Saturated model	15	.000	0		
Independence model	5	1082.850	10	.000	108.285

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.054	.987	.960	.329
Saturated model	.000	1.000		
Independence model	1.790	.369	.054	.246

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	.989	.978	.994	.987	.993
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.500	.494	.497
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.063	.015	.110	.266
Independence model	.554	.527	.583	.000

School Effectiveness

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	28	73.025	38	.001	1.922
Saturated model	66	.000	0		
Independence model	11	2766.097	55	.000	50.293

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.069	.965	.938	.555
Saturated model	.000	1.000		
Independence model	1.501	.229	.075	.191

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	.974	.962	.987	.981	.987
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.691	.673	.682
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.051	.033	.069	.425
Independence model	.376	.364	.388	.000

Appendix H

SEM Output for the Model

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
SB	<---	BR	.954	.116	8.217	***	par_30
SB	<---	SC	.015	.102	.149	.882	par_31
SE	<---	BR	.471	.088	5.328	***	par_29
SE	<---	SC	.097	.062	1.563	.118	par_32
SE	<---	SB	.342	.054	6.382	***	par_33
CP1	<---	BR	1.000				
CP4	<---	BR	1.017	.065	15.697	***	par_1
CP3	<---	BR	1.075	.068	15.805	***	par_2
HR3	<---	BR	.873	.057	15.328	***	par_3
HR2	<---	BR	.897	.058	15.500	***	par_4
RL1	<---	BR	.993	.068	14.615	***	par_5
RL3	<---	BR	.769	.057	13.566	***	par_6
DL4	<---	BR	.700	.061	11.417	***	par_7
DL2	<---	BR	.756	.058	12.961	***	par_8
DL3	<---	BR	.775	.061	12.660	***	par_9
ML2	<---	SC	1.000				
ML3	<---	SC	.838	.049	17.028	***	par_10
ML4	<---	SC	.983	.060	16.451	***	par_11
SS1	<---	SC	.721	.059	12.290	***	par_12
EC1	<---	SC	.942	.053	17.691	***	par_13

			Estimate	S.E.	C.R.	P	Label
EC3	<---	SC	.660	.053	12.506	***	par_14
EC2	<---	SC	.799	.054	14.761	***	par_15
SBM9	<---	SB	1.000				
SBM8	<---	SB	.835	.049	17.133	***	par_16
SBM6	<---	SB	.891	.046	19.450	***	par_17
SBM4	<---	SB	.974	.049	19.756	***	par_18
SBM3	<---	SB	.784	.048	16.229	***	par_19
PD5	<---	SE	1.000				
PD6	<---	SE	.964	.059	16.273	***	par_20
PD4	<---	SE	.883	.054	16.331	***	par_21
CM2	<---	SE	.995	.056	17.830	***	par_22
CM4	<---	SE	.985	.052	18.961	***	par_23
CM1	<---	SE	.980	.058	16.912	***	par_24
AD2	<---	SE	.742	.054	13.723	***	par_25
AD1	<---	SE	1.064	.060	17.643	***	par_26
CM3	<---	SE	1.020	.054	19.009	***	par_27
CH2	<---	SE	.663	.055	11.983	***	par_28

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
SB	<---	BR	.819
SB	<---	SC	.013
SE	<---	BR	.477
SE	<---	SC	.098
SE	<---	SB	.404
CP1	<---	BR	.769
CP4	<---	BR	.778
CP3	<---	BR	.785
HR3	<---	BR	.772
HR2	<---	BR	.787
RL1	<---	BR	.748
RL3	<---	BR	.705
DL4	<---	BR	.597
DL2	<---	BR	.663
DL3	<---	BR	.647
ML2	<---	SC	.839
ML3	<---	SC	.770
ML4	<---	SC	.754
SS1	<---	SC	.621
EC1	<---	SC	.816
EC3	<---	SC	.630
EC2	<---	SC	.725
SBM9	<---	SB	.846

			Estimate
SBM8	<---	SB	.778
SBM6	<---	SB	.834
SBM4	<---	SB	.840
SBM3	<---	SB	.754
PD5	<---	SE	.800
PD6	<---	SE	.765
PD4	<---	SE	.767
CM2	<---	SE	.826
CM4	<---	SE	.862
CM1	<---	SE	.793
AD2	<---	SE	.678
AD1	<---	SE	.818
CM3	<---	SE	.863
CH2	<---	SE	.602

APPENDIX I

Modification Index for School Climate

			M.I.	Par Change
e11	<-->	Social_Sys	10.175	.247
e9	<-->	Social_Sys	10.367	-.261
e9	<-->	Milieu	8.488	.251
e5	<-->	e10	4.744	.172
e5	<-->	e9	9.967	-.269
e4	<-->	e11	4.730	.177
e4	<-->	e10	4.666	-.171
e3	<-->	Milieu	5.219	.137
e2	<-->	Culture	5.815	.221
e2	<-->	e10	4.296	.176
e2	<-->	e5	4.140	-.142
e2	<-->	e3	7.876	-.182
e1	<-->	Milieu	7.234	-.169
e1	<-->	e2	6.979	.178
e8	<-->	Culture	4.153	.155
e8	<-->	Milieu	4.161	-.112
e8	<-->	e10	8.769	.208
e7	<-->	Social_Sys	9.602	-.162
e7	<-->	e10	6.170	-.165
e7	**<-->**	**e9**	**23.504**	**.348**
e6	<-->	Social_Sys	5.620	.157
e6	<-->	Culture	12.904	-.328
e6	<-->	e10	4.103	-.170
e6	<-->	e7	5.495	.132

APPENDIX J

MODIFICATION INDEX FOR BUREAUCRACY

			M.I.	Par Change
e4	<-->	Imp	5.420	.169
e10	<-->	Comp	11.528	-.223
e10	<-->	Hier_Rule	13.944	.212
e10	**<-->**	**e4**	**16.339**	**.286**
e9	<-->	e4	23.458	-.323
e8	<-->	Comp	4.768	.125
e8	<-->	Hier_Rule	15.714	-.199
e13	<-->	e4	4.203	.129
e13	<-->	e10	6.219	-.193
e13	<-->	e8	10.640	.223
e11	<-->	Div_Labour	8.565	-.191
e11	<-->	Hier_Rule	4.728	.122
e11	<-->	e10	6.607	-.224
e11	<-->	e8	5.379	-.179
e7	<-->	Comp	18.274	.291
e7	<-->	Hier_Rule	4.034	-.116
e7	<-->	e8	4.520	-.166
e7	<-->	e12	5.896	.196
e6	<-->	Comp	10.376	-.225
e6	<-->	e10	4.413	.190
e6	<-->	e12	14.498	-.316
e5	<-->	e9	8.207	-.254
e5	**<-->**	**e8**	**16.532**	**.340**
e5	<-->	e11	8.459	-.277
e3	<-->	Imp	9.793	.285
e3	<-->	e8	5.246	-.181
e2	<-->	Imp	10.507	-.237
e2	<-->	e9	5.067	.151
e2	<-->	e6	4.002	-.150
e1	<-->	Imp	5.112	-.176
e1	<-->	e9	9.584	.221
e1	<-->	e8	9.598	-.209
e1	<-->	e13	9.985	-.214
e1	<-->	e11	11.951	.264