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Organizational Effectiveness in Higher Education: A Case Study of Selected Polytechnics in Nigeria

by

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ABSTRACT

This study compares perceived organisational effectiveness within polytechnic higher education in Nigeria. A qualitative methodology and an exploratory case study (Yin, 2003) enable an in-depth understanding of the term effectiveness as it affects polytechnic education in Nigeria. A comparative theoretical framework is applied, examining three polytechnic institutions representing Federal, State and Private structures under a variety of conditions. Data was based on triangulation comprising fifty-two (52) semi-structured interviews, one focus group, and documentary evidence.

The participants in the study were the dominant coalition in the institutions comprising top-academic leaders, lecturers, non-academic staff, and students. Every campus was visited during the fieldwork, which was conducted over a period of more than eighteen months.

The study combines prescribed and derived goal approaches for understanding organisational effectiveness and the Competing Values Model (CVM) was used as a theoretical framework, and ten effectiveness criteria were evaluated comprising; staff training and development, remuneration, campus human relations, ability to acquire resources, physical infrastructure and equipment, accreditation, strategic planning, accountability, internal resource allocation, and information communication technology. The study showed eighteen similarities and twenty-seven differences between the criteria, as evaluated under the prescribed goal approach.

Under the derived goal approach, the study revealed that for effectiveness to triumph in polytechnic higher education institutions in Nigeria, the five goals derived from the participants' interviews and focus group, which are of societal benefits require government intervention on policies: involving upgrading polytechnic institutions to university status as was done in the United Kingdom (UK) several years ago; eliminating the level of corruption in the country; offering a lasting solution to the inadequate and irregular supply of electricity that affects the general populace; the establishment of a single higher education Funding Council to run the affairs of higher education in the country; and an end to discrimination against polytechnic graduates in the labour market.

The study is of great importance to the dominant coalition as the effectiveness of polytechnic institutions would bring satisfaction to their role as major stakeholders, and immensely contribute to the economic growth and development, which will in turn affect the whole of Nigerian society.

The study concludes with a number of recommendations to the system's stakeholders: academic leaders, employers of labour, students, and policymakers working in polytechnic higher education in Nigeria.

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Definition and abbreviations of Key Terms

Academic Unit: A segment within higher education institutions engaged in teaching or research or both.

Accountability: The use of obligation to account for activities, accepts responsibility for them, and discloses results in a transparent manner.

Accreditation: This is a voluntary process of meeting minimum standard requirements designated by an accrediting agency and government.

Budget: This is a numerical representation of income and expenditures for a specified period of time usually one year.

Budget Allocation: This is the actual amount of money approved and disbursed to an organization for its use. In higher education, such allocation covers both recurrent and capital expenditures.

Centralized Resource Allocation Model: This is a model where financial responsibility rests at the centre of the organization. In higher education, the centre is the top-management of the institution.

Competing Values Model (CVM): The model emphasizes on two major general trade-offs dimensions which represent the core values upon which an individual can judge the effectiveness of an organization.

Cultism: This is the anti-social and violent phenomena that have disrupted the higher education system in the country in which the spread and consequences have become a grave concern to higher education stakeholders.

Decentralized Resource Allocation Model: This is a model where responsibility rests on the constituent units of the organization which does not include financial responsibility. In higher education, these are responsibility centres.

Derived Goals: These are the criteria that emanated from respondents' interviews other than the criteria evaluated by the researcher.

Education Trust Fund (ETF): This is the buffer organization responsible for distribution of capital expenditures to educational institutions in Nigeria.

Faculty/School: A large academic unit comprising the departments as its constituent units.

Goal Model: This is traditionally defined in terms of goal accomplishment by the organization.

Higher National Diploma (HND): This is the highest qualification awarded by polytechnics in Nigeria.

Ineffectiveness Model: This is perceived as a disorder which in spite of units' responses leads to further disorder.

Internal Generated Revenues: These are alternative funding sources. In higher education, they are non-governmental incomes realized by institutions.

Internal Process Model: This describes how organization attains its goals and transforming inputs into outputs.

Internal resource allocation: Emphasizes on how resources are allocated due to perceived relative needs and are constrained by the availability of resources determined by fiscal policies and regulations.

Ministry of Economic Planning and Budget (MEPB): State ministry that distributes recurrent capital and expenditure to the State polytechnic under investigation.

National Diploma (ND): This is the lowest qualification awarded by the polytechnics in Nigeria.

National Board for Technical Education (NBTE): This is a buffer government organization that regulates polytechnic education in Nigeria, and distributes recurrent expenditures to Federal-owned polytechnics.

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Non-Academic Unit: This is a segment within higher education engaged in purely administrative work.

Polytechnic: A non-university higher education that is vocational in nature. In Nigeria, polytechnics award only diploma certificates at both national and higher national levels. It is the focus of this research.

Public Polytechnic: This is government-owned polytechnic.

Private Polytechnic: This is a non-government owned polytechnic.

Rector: This is the Chief Executive Officer of polytechnic institutions in Nigeria.

Resource Allocation Model (RAM): This is a strategy used for the distribution of resources to constituents units in organizations. This research however is concerned with financial resources only.

Stakeholders: These are individuals who have vested interests in the performance and existence of organizations.

Strategic or Multiple Constituencies Model: The model emphasizes on how the goals of various stakeholders of the organizations are satisfied.

System Resource Model: This describes how an organization obtains its required resources based on its ability using inputs as measure of criteria from the external environment.

ACADEMIC THESIS: DECLARATION OF AUTHORSHIP

I, **OLUWOLE ADENIYI SOLANKE**

declare that this thesis entitled:

ORGANIZATIONAL EFFECTIVENESS IN HIGHER EDUCATION: A CASE STUDY OF SELECTED POLYTECHNICS IN NIGERIA

and the work presented in it are my own and has been generated by me as the result of my own original research. I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;

2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;

3. Where I have consulted the published work of others, this is always clearly attributed;

4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;

5. I have acknowledged all main sources of help;

6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;

7. Parts of this work have been published before submission and are referenced accordingly.

Signed:...

Date:..

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DEDICATION

In birth and death, we all move between these two unknowns. This dissertation is dedicated to my father, Bishop, Samuel Kolawole Solanke, who left this sinful world on January 19, 2010, a day my father smiled and happy in his peace. He was aged 73. He was to me the best father ever lived, a great companion, a confidant, and a great apostle of God who rose from grass to grace. Through hard work and determination, he rose to the position of a Bishop under the Ministry of the Methodist Church, Nigeria. As a son, he taught me the three great virtues; ***"humility, contentment, and peace of mind"*** as the pillars of life. Kolawole was not born great, but he achieved greatness and today, greatness is being trusted upon him....Adieu my great father. May your soul rest in perfect peace? (Amen). Good night.

CHAPTER ONE: INTRODUCTION

This study compares perceived effectiveness in terms of polytechnic higher education institutions in Nigeria achieving their mission within the higher education system. In reference to current literature, it is unfortunate that to date research on polytechnic institutions in both developed and developing countries has been limited, while to date no research has been found relating to effectiveness as a topic in polytechnic higher education institutions in Nigeria. Thus, there is no precedence regarding the identification of factors that can enhance effectiveness in polytechnic institutions.

The concept of organisational effectiveness has remained a complex issue in the literature because there is no single criterion on which consensus has been achieved, whereby effectiveness can be explained and evaluated by researchers (Cameron, 1978, p.604, 1981, p.25, 1986, pp. 539 & 540, 1986a, pp. 87-88, Lusthaus et al., 2002, p.1, Quinn & Rohrbaugh, 1981, p.124, 1983, Reimann, 1974, Scheerens, 2000, p.7, Scott, 1977, Shin, 2011, p.19, Whetten and Cameron, 1984, p.2, Yutchman and Seashore, 1967, p.891).

Lusthaus et al. (2002) highlighted the inability of academic leaders to understand and change the performance of the institutions they are dealing with, and noted that this has led to frustration in developing countries resulting from unhealthy and poorly performing institutions. According to Cameron (1978), organisations are not static but are rather dynamic entities, and as such, they experience change frequently. Therefore, effectiveness criteria in an organisation over different periods of time varies, leading to the fact that, even where criteria are similar and related, the practice of evaluating organisational effectiveness can vary according to the environment (p.605).

Cameron (1978) pointed out that assessment of institutional effectiveness in higher education is problematic for three reasons. First, collating information regarding goals and outcomes that can be used to evaluate effectiveness is challenging, as colleges and universities do not collect such information. Second, evaluation of institutional effectiveness is characterised by scepticism and defensiveness, as academic leaders regard such efforts as a waste of time, and thirdly, researches in financial positions at colleges and universities typically focus on efficiency rather than effectiveness (p.610). To summarise the words of Cameron (1978), institutional effectiveness is diverse in nature, and because different criteria are characteristic of different stages of the life cycle, comprehensiveness involving different

dimensions and sensitivity to different constituencies in terms of importance is required. Relevant criteria emerge when different levels of analysis are used, some of which are complex, having detailed relationships between dimensions (p.604). Scheerens (2000, p.7) opines that a multi-level approach to developing countries would be more appropriate as emphasis must be laid on self-evaluation as this process in itself can enhance institutional effectiveness.

As institutions perform in a dynamic context, Lusthaus et al. (2002, p.2) have observed that within the institutional environment, individuals and groups find a means to adapt, survive, perform, and influence their wider environment. This usually leads to increased specialisation of functions, people, and infrastructures, forming a state of inter-dependence between the various work groups that comprise the organisation. In addition, institutions are composed of departments and units that possess their own processes and flows. Each unit has its own logic and ways of performing its activities based on its own goals and those of the broader institution. Today, organisations are open systems, and the way they transform their resources into results through work processes can pave the way for effectiveness. In reality, institutions are socially constructed, and their success or failure is governed by the interactions within the institutions.

For decades, numerous studies within organisational theory have focussed on understanding the concept effectiveness. Initially, the concept of effectiveness focussed on how organisational goals should be achieved; hence, Etzioni's goal model (1960) was developed. Furthermore, how these goals would be achieved through resource acquisition was considered under the systems modelled by Yutchman and Seashore (1967). Those stakeholders who exert influence on organisations were discussed within the strategic constituencies' model by Connolly, et al. (1980). The processes through which an organisation attains its goals by transforming inputs into outputs were referred to as the internal process model (Cameron, 1981, Cheng, 2005). Values associated with effectiveness were based on the competing values model proffered by Quinn and Rohrbaugh (1981, 1983), while the absence of ineffective factors as sources of effectiveness were discussed within the ineffective model Cameron (1984) and Argyris (2009).

1.1 Statement of the Problem

The greatest obstacle facing educational development in Nigeria in recent times has been the shrinking economy Moja (2000, p.27). This has drastically slowed down the rapid

pace of reform and affected the progress of technological advancement within the polytechnic higher education sector.

The technological advancement that the polytechnic education could provide for Nigerian society has not been achieved due to a decline in the allocation of public resources, and the low-priority accorded by policymakers to vocational education in Nigeria, which includes polytechnic institutions. Among the daunting constraints facing the institutions are inadequate funding, low teaching quality, inefficient resource allocation, governance and leadership issues, high demand of admission places, insufficient physical facilities, inadequate qualified academic staff, and the unemployment of the higher education graduates (Nwagwu, 1997, p.90, Akinyemi & Bassey, 2012, p.87). However, it is important not to ignore the urgent need to eliminate the forces of knowledge ignorance, disease, and poverty in a growing population such as that of Nigeria on the path to becoming a knowledge-based society.

Various studies have revealed that an inadequacy of funding in Nigerian higher education institutions has led to ineffective teaching and research. The need to search for alternative sources of funds by academic staff, neglect of the maintenance of physical facilities, deteriorating living accommodations, lack of instructional facilities and dilapidated libraries, classrooms, and laboratories are all recognised concerns (Aina, 2002, p.238, Akinsanya, 2007, p.71, Ayo-sobowale and Akinyemi, 2011, p.5, Ibara, 2011, Jibril, 2003, p.495, Omofonmwan & Odia, 2007, p.84, Pellegrini and Radwan, 2010, p.36, World Bank 1994, p.20).

In the words of Herbst (2007):

> The funding system and resource allocation in public institutions can be described as inertia. This is caused by non-competitive environment, unwillingness to perceive an environment as competitive, and lack of appropriate management and governance structures (p.119).

The observation of being in a state of inertia does not mean that the missions of institutions are static, but that institutions are not following the trends of change as their organisational set-up and structures are not compatible with progress. Resource allocation is not efficient and effective, promotion and reward structures are obsolete, and there is a complete absence of competent institutional management.

In the polytechnic education sector, the burdens of expansion opportunities for "*middle-level manpower*" and training are obligations of the Federal and State governments, and lately the private sectors of the economy. Polytechnic institutions are capital intensive in nature; thus, as the education sector faces stiff competition for budgetary allocation in a precarious economy, it has become evident that the government alone is unable to provide the resources required.

1.2 Purpose of the study

This research study is designed to achieve the following purposes:

- To evaluate some criteria in terms of perceived effectiveness for polytechnic higher education institutions' missions in Nigeria.
- To compare evaluated effectiveness criteria among the polytechnic institutions under study.
- To derive goals from the participants' interviews that relate to perceived organisational effectiveness.
- To make recommendations to polytechnic policymakers regarding the ways effectiveness can be enhanced in polytechnic institutions.

1.3 Significance of the study

Many stakeholders have been identified as interested in higher education: funding agencies, policymakers, academic and non-academic leaders, employers, parents, politicians, and the students themselves. This study is of significance to all these stakeholders. They all need to understand the challenges facing institutional heads and policymakers on a daily basis so that they can offer more informed and valuable contributions to the funding debate. One such debate focuses on the area of effectiveness within polytechnic higher education institutions. Gaining a better knowledge of how to effect a remarkable transformation and the factors that will bring about change will assist polytechnic stakeholders in making decisions. This will enable the polytechnics to plan to achieve their missions.

To date, there is a dearth of literature on polytechnic institutions, and observation had revealed that studies of effectiveness have taken place mostly in developed countries (United States, United Kingdom, Canada, Australia, etc.) with no Nigerian studies having been published as yet. This study to the best of the author's knowledge is the first research on polytechnic education in Nigeria with special reference to realising effectiveness in higher education. This study will therefore provide a solid foundation for further research.

Moreover, the pursuance of this study will have potential benefits and will contribute meaningfully to the field of higher education in many ways. First, it is an original research and as such fills a gap in polytechnic higher education literature and references numerous stakeholders who are interested in polytechnic education in Nigeria. Second, the topic widens the scope of the reader's knowledge specifically and that of higher education in general. Third, the study brings into focus new knowledge and information which can assist in planning by applying strategies to support internal generation of revenues, approach external funding sources, manage internal resource allocations and pursue effective leadership, strategic planning, accreditation, accountability, provision of infrastructures and equipment, and technology that is best suited to effect desirable changes. The author hopes that this study will bring about desirable reforms within Nigeria's polytechnic education sector.

1.4 Research Questions

To underpin this study, two questions were formulated, to which answers could be sought: The questions are:

1. **How do the polytechnic higher education institutions compare in terms of perceived effectiveness in achieving their missions within the higher education system?**
2. **What goals can be derived from the participants' interviews that relate to perceived organisational effectiveness?**

1.5 Organisation of the study

This study is divided into seven chapters. Chapter one has set the study in motion by giving an introduction to the problem and setting out the research questions. Chapter two examines the background to the study, national and institutional contexts. Chapter three reviews the body of literature, which theorises about effectiveness as a construct. Chapter four explains existing theoretical frameworks using the competing values model and evaluating factors of effectiveness such as; staff training and development, remuneration, campus relationship, ability to acquire resources, physical infrastructures and equipment, accreditation, strategic planning, accountability, internal resource allocation, and information communication technology. Chapter five presents the research methodology used, accounts for reasons for the methodology and method used, triangulates the data collection, and details

the analytical steps involved. Chapter six presents the research findings and a comparative data analysis. Chapter seven finalises the study with a conclusion, recommendations, contribution to knowledge and limitations to the study. Area(s) of further research are also identified.

Summary

Chapter one has introduced the research, discussed the relevant background to the research rationale and outlined the major purpose of the study, a problem statement, data regarding the significance of the study, the research questions, and the organisation of the chapters. The next chapter provides more detailed background to the study.

CHAPTER TWO: BACKGROUND TO THE STUDY

The focus of this research is polytechnic education in Nigeria. 'Polytechnic' can be described as a generic term connoting a non-university higher education. As an institution of higher learning, its responsibility is to offer different courses in technical subjects, technology, industrial production, agriculture, commerce and communication. In addition, it should offer the knowledge and skills associated with the handling of relevant tools and equipment, and develop students through both theoretical and practical experience. The term 'polytechnic' was decided upon by the National Council of Education (NCE) in 1987 and was in accordance with the National Policy on Education (NPE) in Nigeria, which defined technical education as the acquisition of basic scientific knowledge, involving both practical and applied skills.

The term 'polytechnic' distinguishes between secondary technical colleges and post-secondary higher institutions that offer two- and four-year programmes leading to the awarding of the National Diploma (ND) and Higher National Diploma (HND) respectively (Yabani, 2006, p.17; Yakubu, 2006, p.80). Considering polytechnic from a vocational standpoint, Oni (2007, p.271) defines it as an educational system that equips an individual for employment or self-reliance and provides the necessary skills for agricultural, industrial and commercial roles that accelerate the economic growth of a country. Putting forward its own understanding, UNESCO/ILO (2001) described polytechnic education as:

> A segment of the general education that prepares individuals for
> occupational fields and for effective participation in the world of
> work, life-long learning for responsible citizenship preparation,
> sustainable development promotion, a best method of
> facilitating poverty alleviation, and enable individual to develop
> technical and entrepreneurial skills and attitudes (pp. 10&11).

2.1 National and Institutional Contexts

This section focuses on both the national and institutional contexts of the study. The national context will provide a brief profile of Nigeria and its economy.

Figure 1: Nigerian Map

2.1.1 Geographical Background

The Colony and Protectorate of Nigeria came into effect on 1st January 1914. The geographic coordinates are 10.00 and 8.00, the area is 923,768km2, and in comparison with other countries in the world, it is ranked in 32nd position; Nigeria takes pride in being the "largest black nation in the world" (Jibril, 2003, p.492). The total land mass is 4,047km2, with border countries such as Benin, 773km, Cameroon, 1690km, Chad, 87km, and Niger, 1497km. The measurement of the coastline is 853km, maritime territorial sea is 12nm, the exclusive economic zone is 200nm and the continental shelf is 200m in depth, or to the depth of exploration, and 13,000km2 in territorial water.

The climate varies, from arid in the north to tropical in the centre and equatorial in the south. The terrain is predominantly southern lowlands that merge into central hills and plateaus, with mountains in the southeast and plains in the north. In terms of elevation, the Atlantic Ocean forms the lowest point at 0m, while Chappal Waddias forms the highest at 2419m. The country includes arable land, consisting of 33.02 per cent in usage and with 2,820km^2 irrigated. The permanent and 'other' crops account for 3.14 per cent and 63.84 per cent respectively. There are many religions, with Muslims dominating the northern part of the

country with 50 per cent, Christians 40 per cent and indigenous religions 10 per cent. The country is located on the western area of Africa, bordering the Gulf of Guinea between Benin and Cameroon. The country lies between latitudes 4 and 14 north and between longitudes 3 and 15 east (Ailemen et al., 2004).

The country gained independence from Great Britain in 1960 after one hundred years as a colony. Nigeria is now a federation of 36 states, in additional to a Federal Capital Territory (FCT) in Abuja, and has 774 local governments.

2.1.2 Economy

Treichel (2010) states that Nigeria is one of the leading producers of oil in the world and the country has the highly commendable ambition to be recognised as one of the top twenty economies by year 2020. By tradition, Nigeria is known to be an agricultural country, providing the bulk of its own food needs and exporting a variety of agricultural products, such as palm oil, cocoa, rubber and peanuts.
However, the discovery of petroleum in the 1970s changed government focus from cash crops as major source of revenue to oil which became the dominant source of income and foreign exchange earnings, accounting for 95 per cent of exports with an 80 per cent government revenue contribution. Oil outputs were projected to rise to 4 million barrels per day by 2010.

Nigeria is also a producer of Liquefied Natural Gas (LNG), with the current output at 10 million tonnes per annum, which was set to quadruple to 40 million tonnes by 2010. With the largest gas reserves in Sub-Saharan Africa, Nigeria's revenue from LNG will surpass that of oil in the decades to come. Although the country earned $12 billion (US) from LNG in 2009, the oil-producing region Niger-Delta remains politically volatile. Nigeria is also endowed with many other natural resources, which include tin, iron-ore, coal, limestone, niobium, lead and zinc among others. However, one must wonder why the country remains poverty stricken, despite the abundance of resources.

Often regarded as the 'giant' of Africa, Nigeria has an unsteady economy. As a matter of fact, the economy is struggling to leverage the country's vast wealth in fossil fuels in order to displace the crushing poverty that affects approximately 57 per cent of its population. Economists refer to the co-existence of vast natural resources and wealth with extreme personal poverty in developing countries like Nigeria as the "paradox of plenty" or the "curse of oil".

In his analysis of Nigeria's performance growth, Treichel (2010, p.12) states that there has been notable improvement in the non-oil sector of the country. During 1995–2000, the growth accounted for 3–4 per cent and steadily rose to 7 per cent after 2003, recently increasing to 8–9 per cent. In the face of the global economic recession, the country's growth performance in 2009 has remained stable at above 7 per cent. Treichel (2010, p.12) also notes that the militant aggression in the Niger-Delta has reduced the oil earnings of the country, while the consistent growth in non-oil revenue has been associated with the following reasons:

- Agriculture, wholesale and retail sectors, which accounted for 70 per cent in growth.
- The services sector improvements, such as construction, finance and information technology, which have brought innovations to Nigeria.
- Foreign direct investment and remittances from overseas residents through macroeconomic and structural corrective measures have brought a conducive environment to businesses.
- Growth was as a result of factor accumulation with low productivity effects.

Table 1: Macroeconomics Aggregates, 2001, 2003–2007

	2001	2002	2003	2004	2005	2006	2007
Real GDP	8.4	21.4	10.2	10.5	6.5	6.0	6.3
Oil GDP	5.6	-5.7	23.8	3.3	0.5	-4.4	-5.5
Non-Oil GDP	9.8	33.9	5.8	13.2	8.6	9.4	9.5
Inflation Rate	18.9	12.9	14.0	15.0	17.9	8.0	5.4

Source: Treichel (2010, p.12)

Note: Data for 2002 are affected by a statistical break in the series. GDP = gross domestic product.

Furthermore, data from the World Bank (2010) indicates that the population of Nigeria in 2000, 2005, 2007 and 2008 were 124.84m, 147.72m, 140.88m and 151.21m respectively, representing an annual growth rate of 2.4 per cent in the years 2000, 2005 and 2007, and 2.3 per cent in the year 2008. The Gross Domestic Product (GDP) for the same period in US$ billions are 45.98, 112.25, 165.92 and 207.12, representing an annual growth percentage of 5.4 per cent in the years 2000 and 2005, 6.4 per cent in 2007 and 6.0 in 2008.

The inflation GDP deflator annual percentages for the same period were 35.2 per cent, 19.8 per cent, 4.8 per cent and 11.0 per cent respectively.

2.2 Institutional Context

The institutional context discusses the polytechnic historical background and the governance of the higher education system in Nigeria.

2.2.1 Evolution and Functions of Polytechnic Higher Education Institutions

The emergence of polytechnic higher education institutions has been described in literature as an innovative system, particularly in terms of science and technology-oriented courses. Within the higher education system in place today, numerous countries have established polytechnics in order to serve national interests, playing vital roles in the educational, scientific and technological development in each country.

In literature, the historical background of polytechnic education is ancient. According to Greene (1855) the Ecole polytechnique, now called Ecole Polytechnique of Paris, was the first School of Science in the world, having been established in 1794 and opened in 1795 (pp.8&9). The Polytechnisches Institut (Polytechnic Institute) in Vienna, Austria, was established in 1815 and was regarded as the largest institution in Europe (pp.19&20). The oldest polytechnic in Germany, The Polytechnische Schule Zu, Munchen (Polytechnic School, Munich), was established in 1827 for the education of the technists and for the scientific preparation of those destined to work in the state civil services, while The Polytechnische Schule Zu Augusburg (Polytechnic School at Augsburg) was established by Royal Ordinance in 1833 (pp.19–23). In America, the oldest polytechnic is the Rensselaer Polytechnic Institute, founded as a private institute in 1824 and based on the principle of applying science to everyday life. However, the peculiarity among these older institutions is that they are essentially science oriented and have thus affected the scientific growth and development of their own countries (pp.5&6).

According to OECD (2003), a transformation strategy to curb excessive unemployment within the Finnish economic system led to the establishment of polytechnic institutions in 1991 on an experimental basis. The objectives were to provide more advanced training and education that would be more relevant to students than the existing vocational programmes on offer, as well as being more practically oriented than the university courses (p.143). Further aims included to diversify the higher education system, encourage

international mobility of students and researchers, and enable their graduates secure jobs within the international labour markets (p.126).

In Portugal, Gornitzka, Kogan and Amaral (2005, p.124) and Taylor et al. (2008, p.193) indicated that polytechnic institutions were established in 1977 in order to train technicians and professionals at the intermediate level of higher education as a means of satisfying the urgent manpower needs in several socio-economic sectors of the country.

Doern (2008) also compared polytechnic education in some notable developed countries, comprising the United Kingdom (UK), the United States of America (USA), Australia and Canada. In the UK, polytechnic institutions were established in 1965 to complement the autonomous university sector, but, in 1992, the formal binary system was abolished when all the polytechnics were upgraded into universities. Today, however, some of these universities still have elements of polytechnic programmes and content in their activities.

In the USA, polytechnic institutions comprised numerous Colleges of Technology, such as Massachusetts Institute of Technology (MIT) and California Institute of Technology (CIT), which are global elite institutions rather than small technology institutions. These characterised the US higher education system. Australia, similar to the USA, did not establish explicitly polytechnic institutions as such, but the existing Colleges of Education (CAE) that were technological in focus also included elements of polytechnic programmes and content. Even during reconstitution under the Unified National System, no feasible changes occurred. In Canada, only three provinces with key technology institutes initially termed themselves polytechnics, while community colleges were merged together as polytechnics thereafter (pp.6–13).

According to Adeyemi and Uko-Aviomoh (2004, p.5), polytechnic education in Nigeria experienced a slow start and developed less quickly than other forms of education. This was partly due to the fact that Europeans, the forerunners of Western learning, were unable to popularise it on the same scale as the literary, religious and pedagogical forms of education when they colonised Sub-Sahara Africa, including Nigeria. In giving an account of polytechnic education development in Nigeria, one cannot escape discussing also the emergence of universities, as both institutions have inter-related and historical perspectives.

As stated by Ade-Ajayi (1975) and Esho (2008), the emergence of more technical education in Nigeria after Yaba Higher College was through the Welfare Act of 1940, which was passed by the British Parliament. In 1944, the act provided for the formulation of the Nigerian ten-year Technical Education Development Plan (TEDP), the aim of which was to

satisfy the country's need for engineers, technologists and technicians. However, in 1948, Yaba Higher College suffered a setback as an autonomous college, when her students were withdrawn to give rise to University College, Ibadan, and the name was changed to Yaba Technical Institute. University College therefore became the first premier university in Nigeria.

In pursuance of the plan, in 1949 the Colonial Government set up a two-man team, Mr F.J. Hallow and Mr W.H. Thorps, Principal of Chelsea Polytechnic, London, and Nigerian Deputy Director (Technical) respectively, to consider the viability of establishing a college or colleges of higher technical education in Nigeria. Their report led to the establishment of three regional Nigerian colleges of art, science and technology in 1952, with branches in Zaria, Ibadan and Enugu. These colleges later metamorphosed into the first regional universities in Nigeria, namely Ahmadu Bello, Ife and Nsukka, as a result of the Ashby Commission for Higher Education in 1960. Like their university counterparts, the first generation of polytechnics also emerged through technical institutes; examples include Yaba Technical Institute, which later became Yaba College of Technology in 1963, Ibadan Technical Institute became Polytechnic, Ibadan, in 1970, and Kaduna Technical Institute became Kaduna Polytechnic, Kaduna, in 1964.

As a matter of fact, the slow pace of technological development only became evident when the government realised its inability to compete favourably with other countries in a highly technology-dominated global economy. This reason compelled the formation of the second National Development Plan (1970–75) to correct the identified shortage of technical manpower in Nigeria. The Federal Government later established seven polytechnics via decree No. 33 of 25th July 1979.

Today, there are 74 polytechnics (**appendices 9, 10 and 11**) in Nigeria, all with different types of ownership structure, as summarised in Table 2 below:

Table 2: Number and Ownership Structure of Polytechnics in Nigeria

Federal	State	Private	Total
21	38	15	74

Source: NBTE (2011)

According to OECD (2003, p.51) some functions of polytechnic education are as follows:
- To raise the standard of education provided

- To respond to new demands for vocational skills

- To increase the attractiveness of vocational education

- To improve international comparability

- To improve the operating capacity of the vocational education system

- To decentralise the administration and rationalise the network of institutions, and

- To improve national coverage of polytechnic education.

2.2.2 Governance of the Educational System in Nigeria

In Nigeria, the management of education is based on federalism and is dictated by the country's political structure; thus the administrative mechanism devolves from the centre to the states and local governments. The structure, curriculum and school year policy of education is centrally determined, while delivery of other areas of education is to suit individual local requirements.

The Federal Ministry of Education is a key element, responsible for the harmonising of the educational policies and procedures of all the States of the Federation through to the National Council of Education (NCE), which is the highest policy-making body in the country's educational structure. It comprises the Federal Minister of Education and all the State Commissioners of Education, and is assisted by the Joint Consultative Committee (JCE) on education matters, whose members include the Federal and State Directors of Education, the Chief Executives of Education Parastatals and the Directors of University Institutes of Education. The Director of the Federal Ministry of Education heads the committee and acts in an advisory capacity to the NCE on variety of issues relating to educational matters (Federal Ministry of Education, 2005, p.25).

Summary

This chapter has provided an overview of the national and institutional contexts of education in Nigeria. It discussed the geographical background and the economy within the national context, while polytechnic evolution, functions, and governance of higher education in Nigeria were explored under the institutional context. The following chapter will examine the literature review.

CHAPTER THREE: LITERATURE REVIEW

The use of the term 'effectiveness' has been a point of controversy for decades, and the topic has been studied extensively in different countries across the world. The aim of this study is to contribute to the literature on organisational effectiveness in higher education, while the purpose is to compare how polytechnic higher education institutions perceive effectiveness in achieving their aims in Nigeria.

The literature review is an essential chapter during research due to the enormous advantages it provides to both the researchers and the readers. A literature review describes, compares, contrasts and evaluates the major theories, arguments, themes, methodologies, approaches and controversies within the scholarly subject under consideration. Because of the important information it provides, it is therefore crucial that the study is intelligently structured in order to enable readers to quickly grasp the key arguments. The review also provides the necessary background for understanding the current knowledge on a topic, illuminating the significance of the new study.

The literature review also helps the researcher to learn the methods by which other researchers have constructed their own research theories, and to detect the conflicting points of view expressed by the different authors. It also brings out the diverging themes and arguments supporting these theories as a means of assessing their value and adapting their relevance to the new study (Bartlett & Burton, 2009, p.52).

For purpose of this study, the reading of extensive literature was undertaken through the library databases of universities, bibliographies within the literature, journal articles and online searches, on the web, electronic sources, online articles, and reports on higher education, theses, books and various other documents. The literature review has no doubt helped identify the key issues important to this research. It equally helped in choosing and adopting the methods of data collection and analysis. Furthermore, this study broadly reviews six models: goal, systems resource, multiple constituencies, internal processes, ineffective, while the competing values serves as the theoretical framework. Finally, the study looks at the concept, models, measurement and problems of effectiveness, while the summary ends the chapter.

3.1 The Concept of Effectiveness

Cameron (1986) notes that organisational effectiveness has faced numerous problems in literature because different approaches to assessing it are rooted in arbitrary organisational models, individual values and preferences, which have left the best criteria for evaluating effectiveness yet to emerge. Cameron, however, states that solutions to these theoretical framework problems are the responsibilities of researchers and not the members of society; judgements regarding organisational effectiveness are a major concern of the members of society as they are always required to make choices, such as which school to send their children to, where to save and invest their money which hospital to seek for care, which mechanic to repair their cars, which voluntary organisation to join, where to seek employment and so on. While all these judgements are not exhaustive they nonetheless form part of a judgement equation of organisational effectiveness (pp.87 & 88).

Supporting this view, Goodman and Pennings (1979) posit that, in our daily lives, and as organisation members, we continually generate information to be used in assessing organisational effectiveness and we contribute to the overall effectiveness of the organisation. Organisational effectiveness therefore is not only a phenomenon that is of pragmatic consideration in terms of importance, but also a critical concept in organisational theory. It is therefore difficult to conceive of any organisation theory without an element construct of organisational effectiveness (pp. 1&2). Cheng (1996, p.2) postulates that there seem to be no standard elements that are accepted by all concerned constituencies for evaluation as critical elements of effectiveness conceptualisation; examples include "what criteria", "whose criteria", "effective for whom", "who to define", "how to evaluate" and "when to evaluate". Under what environmental constraints is also often problematic. Understanding of effectiveness therefore requires a sound theoretical model.

In response to the theoretical problem, Pinder and Moore (1980) observe that theoretical frameworks are too broad and too abstract to have value in enhancing empirical-based understanding of organisational effectiveness. They additionally contend that there is too great a distance between the theorising and the data; organisations are too numerous and difficult to be captured under one theoretical umbrella and, as such, are very difficult to accommodate into one theoretical framework (pp. 305&306).

Weick (1974) argues that researchers typically undertake a fine grained analysis to isolate separate causes, but follow this with a coarse grained analysis when the effects are being examined. He contends that we treat effects more crudely than we do causes, which

accounts for the lack of theoretical and methodological development in the study of organisational effectiveness:

> If we tried obsessively to discrimate suble differences in effects, we would probably find more single-cause, single effects relationship than we now see (p.366).

Within higher education, Shin (2011) observes that evaluating academic effectiveness is perceived as being very difficult, particularly as it affects the public sector more than in private corporations. This is because higher education has long been considered a sector where evaluation of effectiveness cannot be applied, as academics develop their own courses and as such are in their 'own world' (p.19).

As researched by Baldridge et al. (1978, p.19), academic institutions differ in the following six critical ways: firstly, there is ambiguity of goals that are very unclear and also contested; secondly, because of the societal benefits derived from institutions, academic organisations are client-serving; third, problematic technologies arise due to the network of clients that institutions serve; fourthly, the academic task is dominated by high professionalism, which paves the way for self-autonomy and freedom, divided loyalties, strong tension between professionalism and bureaucracy and peer-evaluation demands; fifthly, academic staff are fragmented due to their respective professionalism; and finally, institutions are now more vulnerable to the pressures of their environments.

Based on these differences, the criteria for evaluation of effectiveness in higher education institutions cannot be the same as other organisations. While other organisations may focus on profit maximisation, higher education institutions pursue the building of knowledge and service. In higher education, the issue of quality is of much greater concern than issues of effectiveness. For example, the perception and expectations of a society are usually on production of quality graduates rather than on effective graduates. This is one of the reasons why academic leaders seldom discuss the concept of effectiveness, as it is more of an internal concern and only the employees of an institution are in a position to truly explain the effectiveness within their domains.

Hutchins (1977) contends that:

> The only way in which a higher education institution can be
> critised or appraised, indeed the only way to determine whether
> it is good or bad, average or indifferent, is to know what it is
> really about, what it is supposed to be doing. If you don't know
> these things, you haven't any standards of criticism ...
> [univerities] haven't any clear ideas of what they are doing or
> why. They don't even know what they are (p.5).

Shin (2011), however, said that higher education is no longer an exception to the trends in organisational effectiveness assessment, as organisational theorists have measured effectiveness for many years, even though the subject remains controversial among academic researchers (p.20).

Goodman and Pennings (1986, p.167) argued that effectiveness of organisations can be determined if relevant constraints are satisfied and results approximate or exceed a set of referents for an organisation's multiple goals. Distinctions among constraints, goals and referents showed that constraints are conditions that must meet a certain level of satisfaction and must be operationally defined as a set of referents or standards. In a nutshell, constraints appear in organisations as policy statements or decision rules. Failure to meet constraint leads to organisational ineffectiveness. In higher education, such constraints can emanate from top management, faculty, departments and the non-academic units of the institution; a statement policy that says no department shall recruit a first degree holder as a lecturer or that staff to be promoted that year must have published at least two research articles are both examples of conditions that must be satisfied in order for effectiveness to be achieved.

For Katz and Khan (1966, p.170), organisational effectiveness can be perceived from two components: efficiency and political. The term 'efficiency' is described as the relationship between the energetic outputs and energetic inputs, with a focus on to what extent an input produces a product and how much the system has absorbed. The achievement of efficiency and political effectiveness therefore reveals the effectiveness of the organisation.

Comparing efficiency and effectiveness, (Pennings and Goodman, 1986) note that the similarity between efficiency and effectiveness is that constraints and referents are

incorporated into both and their differences show that effectiveness relates to input acquisition or output disposal levels while efficiency is associated with adjustments in reference to cost or resource units being utilised (p.170). On the other hand, political effectiveness is achieved through short-run maximisation of returns to the organisation from transactions with various internal and external members. Examples of political effectiveness are gains that could result through exertion of power in order to gain opportunities such as low prices of inputs through favourable legislation lobbying. In essence, political effectiveness is concerned with the input acquisition and outcome disposal process that recognises the importance of the environment (p.182).

Katz and Kahn (1966) further argue that political effectiveness increases short-term profitability while control and environmental adaptability can guarantee the greater survival and growth opportunities for an organisation (p.181). The next section considers the models of effectiveness.

3.2 Models of Organisational Effectiveness

According to Martz (2008, pp.1&2) and Cameron (1984), organisational effectiveness is, conceptually, an enigma. It is a dependent variable that is of high importance to those people engaged with organisational activities. While numerous definitions have been used to unravel the ambiguity surrounding organisational effectiveness as a concept, limited progress has been made towards reaching a consensus on a single model or approach; it can best be described as the most central construct study carried out by organisation researchers. In literature, models abound. For purpose of this study, five related models of organisational effectiveness would be considered. They include:

- Goal Model
- System Resource Model
- Strategic or Multiple Constituencies Model
- The Internal Process Model
- Ineffectiveness Model

3.2.1 Goal Model

The goal model is the oldest that is still widely used, and focuses on the extent to which an organisation achieves its goals (Etzioni, 1964, p.6; Price, 1972, p.4). Price (1972) views the goal model as being traditionally defined in terms of goal accomplishment, noting

that the greater the achievement of goals by an organisation, the greater the effectiveness. Yuchtman and Seashore (1967, p.892) distinguish between two components of the goal approach. Firstly, there is the "prescribed goal approach", characterised by a focus on the formal charter of the organisation, or in some category of its personnel, usually top management, as the most valid source of information concerning organisational goals. Secondly, there is the "derived goal approach", in which the investigator derives the ultimate goal of the organisation from his functional theory, thus arriving at goals that may be independent of the intentions and awareness of the members. The functional theory was said to be normative because the investigator reports what the goals of an organisation are or should be as dictated by his or her interactions among the larger society (p.895).

Daft, Murphy and Wilmott (2010) assert that organisations strive to accomplish certain levels of output, profit or satisfaction of customers. As such, the best logical way to evaluate effectiveness and progress is for the organisation to identify the output goals and how well the organisation has attained them.

Furthermore, they maintain that organisations must always consider the operative goals as the basis of effectiveness evaluation, rather than the official goals themselves. Distinguishing between the two, they contend that official goals are abstract in nature, associated with the mission, and are often very difficult to evaluate. On the other hand, operative goals depict the organisation's activities and their actual performance (p.68). They also note that it is not easy to identify operative goals due to two major problems, however: the issues of multiple conflicting goals and the subjective indicators associated with goal attainment, which have made it very difficult to evaluate effectiveness with one single factor, as high achievement in one goal might equate to low achievement in another (p.69).

Daft (2010) describes operative goals as specific outcome measures that are short-run in nature, and maintains that performance, resource, market, employee development, productivity, innovation and dynamic goals are typical examples of operative goals (p.63).

Gross (1969) considers goals as a matter of empirical issue that must be discovered by researchers. Elaborating on Ezioni's definition of an organisational goal as a desired state of affairs that the organisation is attempting to realise, Gross (1969) notes that, theoretically, there could be as many desired states as there are people working in an organisation, if not more, as goals perceived by top management may not be the same as those of middle and/or lower employees. This is a case of individual difference, as what is good for the employees may be at variance with the actions of the policymakers. Distinguishing between private and organisational goals, private goals are the motives of employees, while organisational goals

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represent the overall objective of the whole organisation; but, in order for effectiveness to be achieved, Gross (1969) recommends meaningful compesation of employees in order to support the goals of the organisation (pp. 278&279).

Further, Gross argues that, for goals to be realised, certain features must be put in place by the organisation. These include what employees must comply with, while the top management must insist on a set of rules being in place, ensuring that activities are directed towards the achievement of goals, and that employees must not spend all of their time on the attainment of their own goals; they must do more than give only attention to goal attainment, they must encourage activities that are related to the goals of a particular unit (pp. 280–83). Gross (1969) contends that two important factors, intentions and activities, must exist in order for a goal to be present. Intentions are what the objects, goals, aims or directions of the organisation are, as perceived by the employees of the organisation, while activities are what the employees of the organisation are doing in terms of time and resource allocation (pp. 284&285). Gross also recognises the importance of the output as a component of an organisational goal, which he describes as an institution's products being distributed to the external society. However, Gross also argues that, while there is relationship between intentions and activities that connotes an organisational goal, output represents the success of the organisation as a whole in terms of goal attainment (p.285).

Analysing his research on higher education institutions, Gross (1969) identified 47 goals, which he compressed into five that comprised of output goals, which affect the society in terms of immediate or future service; adaptation goals, which show the relationship between the organisation and its environment; management goals, which reflect an institution's leadership and the effects on the output goal; motivation goals, which demonstrate the relationship between stakeholder satisfaction on campus and their loyalty to the institution; and positional goals, which reflect the competitive nature of an institution with other institutions in order to bring desired change (p.289&290). Gross (1969) concludes that, when goals of institutions are discussed, what is being referred to are the output goals (p.291).

However, the goal model has been subjected to serious criticisms. Yutchman and Seashore (1967) offer two reasons why the goal model should be rejected: firstly, realistic assessment of goals is very difficult, and secondly, cultural entities are the basis for goal derivation and as such they cannot be seen as organisation's property (p.893). This is in consonance with Etzioni's (1960) perception, in which he argues that organisations, in terms of inter-relationship, are social systems and their goals as basic objectives are therefore

cultural entities. This is because the organisational goals are imposed by various forces in the environment rather than preferred end states toward which the organisation is striving. Further, the organisation is comprised of a large variety of individuals and groups, each having its own conceptions about any claims on the organisation. In view of this fact, no adequate conceptualisation of organisational effectiveness can be formulated unless organisation-environment relationships are incorporated into its framework.

Whetten and Cameron (1984) state that the reliance of the model on measurability and time constraints, which cannot be achieved by many organisations, has made its goals effective only when they are already clear and have known results, such as time of occurrence and who wants such goals to be achieved within the organisation (p.3). This shows that there are forces behind goal achievement in organisations. Etzioni (1960) critised the goal model as having some methodological shortcomings and, as such, it cannot be considered as an objective. He points out that findings on goal model studies have been stereotyped, and too much reliance has been placed on the model's assumption (pp.257&258). He perceives that organisations have always found it very difficult to achieve goals effectively, because they are characterised by many goals different from those they claim to pursue.

Seashore (1983) and Steers (1977) support the argument of Etzioni with regard to the goal model. Accoding to Seashore (1983), the goal model is more sensible when viewed as describing the purposive forces exerted on the organisational system, rather than self-generated purposefulness within it (p.59). Steers argues that organisational success must be measured against organisational intentions, as opposed to the value of investigative judgement in order to achieve effectiveness (p.5).

Kondalkar (2009) states that goal approach limitations are comprised of difficulty in applying goals to organisations dealing with intangible products, the measurement of units and sub-units of performance being difficult to express in a quantifiable manner, that goals are numerous and conflict with each other, the consensus that goal attainment is difficult to achieve, and that goals are more of an external derivation than of relevance within organisations (p.4).

Price (1972) notes that researchers of the goal approach have not developed measures of effectiveness that can be used to study different types of organisation; the current measures are limited in their application. For example, some measures of profitability, such as profits as a percentage of net worth, are commonly used to study the effectiveness of business organisations. This measure of profitability is only applicable to other business organisations if the accounting procedures are well standardised; however, profits as a percentage of net

worth are of no assistance in the study of effectiveness in other types of organisation, such as hospitals, schools and government agencies. On the other hand, studies of these organisations use measures of organisational effectiveness that are limited, respectively, to their domains. General measures of effectiveness have not been developed by adherents of the goal approach, and this hinders the development of theory. The existence of general measures promotes measurement standardisation, and this in turn facilitates comparison, which then furthers the development of theory (p.7).

In higher education, however, it should be noted that questions such as how goals are determined, how they are achieved, when they should be achieved, who should achieve them (the faculty, a department, non-academics or even top management), why they should be achieved, whether they are short- or long-term goals, whether resources are available to achieve them, as well as many more, are what make goals controversial and ambiguous. In reality, organisations of human beings cannot exist without goals, but only differ in terms of how goals are planned and accomplished.

3.2.2 System Resource Model

The negative reactions against the goal model led to the birth of the systems resource model, as championed by Yutchman and Seashore (1967). The systems resource model describes how an organisation obtains its required resources based on its ability to use inputs as a measure of criteria. Yutchman and Seashore (1967) posit that open systems of organisation are characterised by three basic processes: resource acquisition, transformation and disposal, which are all highly interconnected, so that loops in organisational effectiveness can be evaluated.

To Yutchman and Seashore (1967, p.898), Kondalkar (2009, p.4) and Daft, Murphy and Willmott (2010, p.69), the input-acquisition is the best loop, which defines effectiveness as the ability of the organisation to exploit its environment in the acquisition of scarce and valuable resources. However, Yutchman and Seashore (1967) contend that effectiveness of an organisation can be determined even when inputs are not optimal and resource competitive advantage does not exist in terms of competitive advantage.

Whetten and Cameron (1984), on the other hand, note that it is only when received resources are processed into outcomes that an organisation can be judged effective (p.4). Etzioni (1960) argued that the starting point of an organisation does not commence with the goal, but rather with a working model of a social unit capable of achieving a goal. He considers system model a multifunctional unit that must be emphasised in terms of how

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organisations should devote time to non-goal functions, such as service, custodial activities and maintainance of units, as these activities all promote organisational effectiveness (p.261). The essence, therefore, is that, while goals are of high importance, there are some issues concerning resources acquisition that require fulfilment by the institutions before the goal issues are addressed.

Daft, Murphy, and Willmott (2010) identify four indicators associated with the systems resource approach: the bargaining position, which emphasises the ability of the manager to acquire finances, human resources, raw materials, knowledge and technology from the external environment; decision-makers' abilities to perceive and interpret the dynamism of the external environment; superior achievement in the day-to-day activities of the organisation through the use of tangible and intagible resources; and the organisation's ability to respond to the changing environment (p.71). In effect, for any organisation that wants to survive, the reliance of the approach is on the external environment.

Price (1972) provides three criticisms against the antecedents of the systems resource approach. Firstly, the model does not address the optimal level of resources that can make an organisation effective, and one can therefore conveniently infer that acquisition of high volume of resources does not in itself cause an organisation to be effective. Secondly, the need for general measures of effectiveness is not considered by the approach, as the research primarily indicated measures applicable only to a single type of business organisation. Lastly, the basic rule of mutual exclusivity, such as frames of reference in the construction of classification schemes, is violated by the systems approach as effectiveness; for example, this is equally referred to as 'efficiency'.

Price (1972) argued that no single measure can adequately assess such a complex concept of effectiveness; therefore, multiple measures are required and even preferred by researchers, as this improves validity and reliability, while divergent measures must assess the same analytical concept. A multidimensional approach to effectiveness is acceptable if it means a multiple evaluation of effectiveness; however, a multidimensional approach to effectiveness is unacceptable if it means multiple measures of a series of different analytical concepts. The users of the systems resource approach violate the rule of mutual exclusiveness because a multidimensional approach to effectiveness, which uses multiple measures of different analytical concepts, is adopted (p.10).

Bedeian (1987, p.3) criticises the model as being difficult to operate, but does not elaborate on which scarce and valued resources are relevant for evaluating organisational effectiveness. He also states that the model does not specify how acquired resources should

be allocated internally. Kondalkar (2009, p.4) argues that, for an organisation to determine its effectiveness under the systems resource approach, there must be an interaction between the organisation and the external environment, resources must be used in an effective manner, and contribute to larger systems. The organisation must depend on the ability and feedback of the sub-systems, optimising the input-output cycle, adapting to the changing environment and ensuring that it is progressive at all times.

Without giving consideration to the changing demands of the customers in the competitive markets and the uncontrollable external environment, the systems approach may not be able to fulfil the desired effectiveness in organisations.

3.2.3 Strategic or Multiple Constituencies Model

The strategic constituencies model emphasises how the goals of various stakeholders of the organisations are satisfied (Bedeian, 1987; Cameron, 2005; Carton & Hofer, 2008; Connolly, Conlon & Deutsh, 1980; Zammuto, 1984).

Zammuto (1984, p.606) posits that the multiple constituencies model shares a common background with other models, but needs to answer a simple question: "Whose preferences should be satisfied through the distribution of the outcomes of the organisation performance?" He identifies two specific methods of analysis; how can the overall organisation effectiveness be reached, and what are the managerial implications involved? He equally maintains that four distinct approaches are feasible in order to unravel this mystery: relativistic, power, social and evolutionary perspectives.

The principle behind relativism is that members of the constituencies provide the required information for evaluation of effectiveness. Zammuto further argues that no constituency is perceived as being superior to another, noting that the onus of responsibilty lies with the evaluator in allowing those who consume evaluative information the opportunity to make overall judgements of organisational effectiveness (p.607).

The power perspective explains that strategic constituencies can exert power where they have control over the activities of the organisation. As pointed out by Whetten and Cameron (1984, p.5), some organisations are controlled by external pressures, while some are proactive and autonomous in their activities, indicating that some strategic constituencies are more powerful than others. The effectiveness of the model therefore benefits the more powerful stategic constituencies over the weaker ones.

As Pfeffer and Salancik (1978, p.259) state, the abilities of the strategic constituencies to regulate the use, access and allocation of generated resources empower them to exert a

level of control that is important to focal organisations. In this instance, control is the use of discretion to initiate or terminate actions.

Similarly, Pfeffer (1992, pp.100–101) asserts that influence on others through the use of resources can be exercised to the extent of discretion and dependence development over them. However, Pfeffer and Salancik (1978, p.260) argue that, before control can be exerted, there are prevailing conditions that facilitate such control, which include resource possession by the social actor; resource importance, its criticality and survival to the focal organisation; the difficulty to obtain the resources elsewhere by the focal organisation; the allocation, access and use of the critical resources by the social actor's discretion; discretion and capability to take the desired action by the focal organisation; lack of control over the resource critical to the social actor; and social actor's ability to make known to the focal organisation its preferences.

Furthermore, Pfeffer (1992, pp. 88–89) maintains that jurisdiction over resources creates an important power source, to the extent of its use and actual control. He lists some conditions necessary for controlling resources; they include possession, access to such resources, the actual use and control of the resources, and the ability to make rules or regulate the possession or allocation of resources and regulations enforcement. In addition, he postulates that there should be no alternative methods of obtaining access to the resources an organisation controls (p.92). Within institutions, power can also be sourced through resources, most especially by those who have budgets and substantial resources already under their control.

Social justice was perceived through a study by Rawl (1971); according to him (1999, p.52), a society must be at a point where distribution of all societal values, liberty, opportunity, income, wealth and self-respect, are equal unless, unequal distribution of these social values is to everyone's advantage. Two principles of justice emerged from this statement; each person must be accorded an equal right to the most extensive scheme of equal basic liberties compatible with a similar scheme of liberties to others, and inequalities regarding social and economic means should be arranged so that (a) the expectations are to everyone's advantage and (b) positions and offices of authority are open to all under conditions of opportunity.

Zammuto (1984) regards the least advantaged principle as the yardstick upon which organisational effectiveness is judged under the social justice. One can see in Rawl's objective the call for an egalitarian society, but where lies the social justice in developing countries, most generally in Africa and specifically in Nigeria, where the gap between rich

and poor is wide and corruption reigns supreme? In such a situation, the standard yardstick for organisational effectiveness judgement should begin with the liberation of the oppressors in order to develop a conscience that will further liberate the most disadvantaged for effectiveness to be accorded a rightful place in society.

Lastly, the evolution perspective emphasises the performance of the organisation in the long run, and considers the potential limits of performance, as what is an effective performance at a certain point in time may no longer be effective at another due to changes in the context of occurrence (p.608). In essence, evaluations of organisational effectiveness must be based on a selection process in which constituent preferences are regarded as inadequate for an effectiveness assessment within the context of societal evolution. The concern of this model therefore is to be effective on a continual basis in order to satisfy divergent preferences in the long run (p.608).

Similarly, Cameron (2005, p.4) considers the multiple constituency models as elastic entities, pulling the organisation's shape and practices in different directions as a means of satisfying the different groups of stakeholders, as they operate in a dynamic environment of force.

Bedeian (1987, p.4) perceives the model as an expansion of the goal model, because it considers the satisfaction of the multiple constituencies' stakeholders' goals, rather than that of the managers, in the assessment of organisational effectiveness. Chang and Tuckman (1990, p.53–61) maintain that, in higher education institutions, ten constituencies exist whose interests must be satisfied: students, faculties, administrators, trustees and governing boards, professional and accrediting agencies, society at large, federal funding agents, state funding agents, philanthropic institutions and private industry.

Robbins (1983) states that there are four steps involved under the strategic constituencies model: (i) stakeholders must be identified, (ii) each relative power of the stakeholders must be identified, (iii) their expectations must be known and (iv) the weight and the common and incompatible expectations of the constituencies must be known through the strategic planning of the organisation.

Connolly et al. (1980) argue that organisations can grow and survive only when the demands of these stakeholders are satisfied. However, in reality, it becomes very difficult to satisfy all the constituencies, as factors such as financial problems, lack of focus and lack of consensus as regards level of satisfaction can lead to ineffectiveness. The multiple constituencies' model has thus been subjected to criticism.

Bediean (1987, p.4) observes that the model incorporates several underlying value-based issues: the inability of an organisation to satisfy all concerns that may interest its various constituents due to practical constraints; self-interest prevailing among constituents on any effectiveness criteria proposed for evaluation; preferential treatment being encouraged as each criterion would benefit some constituents more than others, as effectiveness assessment does not operate in a vacuum; and lastly, wide divergence and commensurate conflicts being expected when organisations experience scarce resources.

Friedlander and Pickle (1968, pp.302&303) conducted a research that explored the relationship that existed between internal and external system effectiveness and 97 small organisations. The internal system was defined as the formal boundaries within the organisation, while the external system represents the interaction of the larger environment in which the organisation operates. Effectiveness, on the other hand, was viewed as the satisfaction of the needs of organisational stakeholders. The basic objective of the study was how the interests of the internal stakeholders, the owner and employees, and five external stakeholders, customers, suppliers, creditors, community and government, can be satisfied by the organisation. A random stratified technique was used as sample. The results showed a moderate relationship between the satisfaction of the internal stakeholders' needs and organisational effectiveness, while a low relationship existed regarding the fulfilment of the external stakeholders' needs. The argument is that organisations find it very difficult to maximise satisfaction of one system because they exist to fulfil the needs of numerous stakeholders. Managers are always enjoined to attempt to harmonise their internal functions to match the dynamic organisational environment.

This approach is a combination of the goals and the systems resource approaches, and is perceived as having multiple-constituencies of effectiveness. The task facing the organisation, therefore, is to be able to identify the critical constituencies carefully, recognising priority when a greater number of the constituencies are critical, ensuring competing groups are identified, always adapting to environmental dynamism and that they only satisfy constituencies minimally, particularly those that will contribute to the values of the organisations, as this will ensure a high level of effectiveness.

3.2.4 The Internal Process Model

This model encourages the human relationships that exist within an organisation among staff as a weapon of effectiveness, emphasising factors such as participation, humanitarianism and the absence of strain (Cameron, 1981, p.4). The bedrock upon which

the quality of output and the degree to which planned goals can be achieved in education rests on the quality of the internal processes model.

Most researchers (Boyne, 2003; Cameron, 1981; Cheng, 2005; Daft, 2010; Daft, Murphy & Willmont, 2010) maintain that organisational effectiveness is evaluated on the basis of the processes through which the organisation attains its goals by transforming inputs into outputs. Such internal processes must be effective and efficient, and ensure that employees are happy and satisfied while undertaking their services for the organisation.

Boyne (2003, p.219) notes that the internal processes of an organisation have a strong relationship with organisational effectiveness, corroborating his assertion with two reasons: a precondition of an organisation's success may be good human resources management, as improvement suffers if staff are poorly trained and inadequately rewarded, and workforce welfare may be considered an end in itself. Furthermore, Boyne (2003) maintains that, if the happiness of the employees is the basic objective for organisational effectiveness, then job satisfaction contributes to this and the task being faced by the organisation is to seek an appropriate balance among various internal and external stakeholders' interests (p.219).

According to Cheng (2005), the internal processes of an educational institution comprises of management, teaching and learning processes, and effectiveness therefore concerns the efficient and beneficial learning experiences focusing on organisational internal improvement (p.52). Moreover, Cheng (2005) maintains that the internal effectiveness of an institution can be judged through the value-added theory, noting that the greater the improvement of the internal processes in teaching and learning, the greater the value added to educational effectiveness. As depicted in figure 2 below, if the internal process through different components or criteria and their relationships can be improved during a certain period of time, from **T1 to T2**, the area of value-added will increase in terms of effectiveness and so also will the achievement of planned goals. The assumption therefore is that a larger increase in the planned goals achievement occurred due to the improvement in the internal processes indicating that value can easily be added to effectiveness if the respective criteria can improve some or all aspects of the educational system (p.53).

Figure 2: Value-Added in Internal Effectiveness

Planned Goals │ ──── T1 ──────────── T2 ────

Area of Value-Added

**(Increase in achievement due
to internal improvement)**

Improvement of internal process
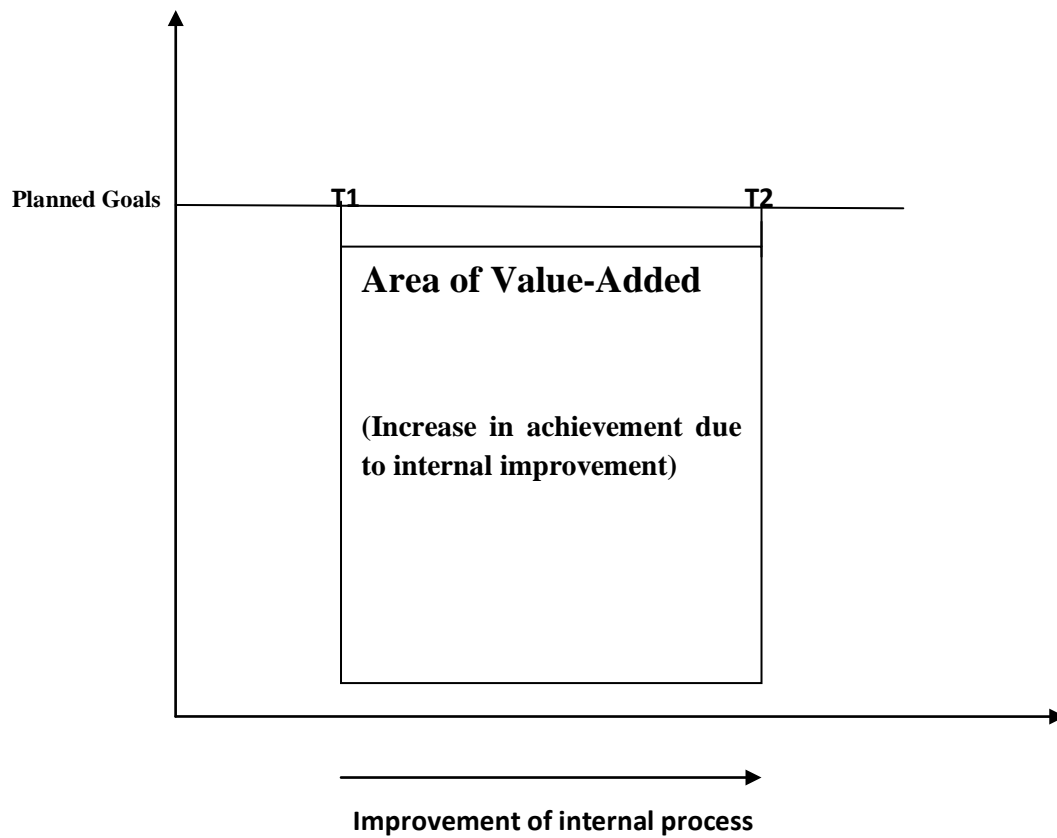
Source: Cheng (2005, p.53)

Daft (2010, p.77) enumerates four indicators upon which internal processes are based: adaptable corporate culture and positive work climate must be strong; minimal resources must be used to achieve operational efficiency outcomes; horizontal and vertical communication must be undistorted; and employees must demonstrate growth and development.

In their criticism, Carton and Hofer (2008, p.52) note that, while the internal processes use the presence or lack of internal strain as a proxy for performance; it is possible for members of an organisation to achieve perfect harmony by spending their entire time sitting down and watching television without achieving the organisational goals. This indicates that the accomplishment of perfect harmony does not equate to the organisation being truly effective.

For instance, in a higher education institution, the staff can socialise in their staff rooms and not get to their lectures at the right time, yet harmony still prevails at the expense of this effectiveness by through not carrying out their primary responsibilities.

3.2.5 Ineffectiveness Model

The ineffectiveness model concentrates on the problems facing organisations and how they can be eliminated in order to be effective. A major advantage of this model is that it provides managers with practical guidelines for organisational diagnosis and improvement (Cameron, 1981, p.6).

Argyris (2009, p.123) maintains that organisational effectiveness increases when output is obtained at an increasing rate with decreasing or constant inputs, outputs that are constant with decreasing inputs, and accomplish them to the extent that continuity is ensured. Argyris argues that the three core activities of objectives, internal maintenance and external environmental adaptability must be achieved for an organisation to be effective:

> In short, if an organisational effectiveness increases, it will be able to accomplish its three core activities at a constant or increasing level of effectiveness with the same or decreasing increments of inputs of energy.

According to Argyris (2009, p.126) an organisation becomes ineffective if it continuously experiences increasing inputs for constant or decreasing outputs. He argues that when the input, output and feedback cycle is finished, the system will not only result in an output but will find that a failure mechanism has occurred, leading to a repetitive ineffective cycle.

Ineffectiveness, therefore, can be perceived as a disorder, which, in spite of the units' responses, leads to further disorder. However, Argyris (2009) cautions that not all disorder can be termed to be ineffective, as an element of disorder can in fact enhance effectiveness, but only repeated and compulsive disorder can be judged as ineffectiveness (p.127). Argyris (2009) explains that the best way to evaluate ineffectiveness is through the lens of organisational stress. He describes stress as being in existence when the actual giving and receiving of units becomes disequilibrium in the relationship between them. Furthermore, he contends that the existence of stress could be either positive or negative, noting that it is the consequences of the latter that constitute ineffectiveness in organisations.

Moreover, Argyris (2009, p.128) identifies five basic factors of stress that can constitute ineffectiveness in organisations: when existing capacities of units are inadequate to accomplish the required goals; when the required help by the units is altered without alternatives being provided; when the time allowed to perform functions is too little or too much; when units face inadequate or too many resources to achieve their goals; and when unexpected functions occur without adequate preparation. Argyris (2009) posits that ineffectiveness can be measured at least in terms of the relationship between the start time and the manner in which it corrects itself, which eventually suggests that ineffectiveness commands a measurable tolerance. In more in-depth explanations, the causes of ineffectiveness differ and different conditions contribute to its occurrence, as its existence in one organisation may not be same in another. As Argyris puts it:

> The definition of ineffectiveness is based on the values one holds. In the real empirical world, it may be that no organisation is completely free of ineffectiveness and in perfect health. Each organisation will probably develop a state of effectiveness that is best for its present state. The battle between effectiveness and ineffectiveness may never be won. It may well be a never ending struggle that at best, the organisation must continually overcome. Equally, there is problem of degree of ineffectiveness and the beginning of serious ineffectiveness differs from organisation to organisation (p.128).

3.3 Measurement of Organisational Effectiveness

Cameron's (1978) research examines the concept of organisational effectiveness in six higher education institutions. His main arguments are those factors that constitute obstacles to assessment, criteria and problems, unique attributes of colleges and universities, and criteria choices for addressing these issues. Using separate data collection in two studies, the first comprising questionnaires and interviews and the second designed to effect refinements in order to improve the instruments and their psychometric properties, the results showed that effectiveness as a concept comprises different constituencies, levels of analysis, natures of organisation, and research and evaluation. In this context, effectiveness can be regarded as a non-unitary concept, but one of multiple dimensions and, as a construct; it possesses multiple domains that can be used in different ways. As such, effectiveness in a

domain at one point in time may not be regarded as effectiveness at another particular point in time (p.625).

Cameron (1978) identified nine dimensions of institutional effectiveness:

Table 3: Nine Dimensions of Organisational Effectiveness in Higher Education

Dimensions	Definitions
1. Student Education Satisfaction:	The extent to which the institution satisfied the students in their educational experiences.
2. Student Academic Development:	The progress of students at the institution, and the extent of the academic growth attainment.
3. Student Career Development:	The career development provided by the institution, and the extent of students' occupational preparedness.
4. Student Personal Development:	The personal development provided by the school, and the extent of non-career, non-academic-oriented areas of the student development.
5. Faculty and Administrator Employment Satisfaction:	The extent of satisfaction of faculty members and administrators with their employment at the institution.
6. Professional Development and Quality of the Faculty:	The development provided by the school, and the extent of professional attainment by the faculty.
7. System Openness and Community Interaction:	Service provision, adaptation and interaction of the institution with the external environment.
8. Ability to Acquire Resources:	The ability of the institution to obtain resources from the external environment, such as good students and faculty, financial support, etc. .
9. Organisational Health:	The internal processes and practices through benevolence, vitality and viability.

Source: Cameron (1978, p.614; 1981, pp. 30&31; 1986, p.92).

In a strong criticism of Cameron's study, Goodman, Atkin, and Schoorman (1983) identified five irreconcilable factors. Firstly, that Cameron's study cannot be generalised for the benefit of other institutions because of the incomprehensiveness of the dimensions and lack of interrelationship between them, and the theoretical elements underpinning the study. Secondly, the question of how dimension variations relate to organisational effectiveness was not adequately answered, as the study did not address constraints, functional or dimensional trade-off problems. The perpetual data from the questionnaires did not provide any validity in its comparison with the objective data, which remained unclear as a measure of effectiveness. In addition, validity support was only for four dimensions, while the questionnaire response rates accounted for only 14% (p.170). Thirdly, the perpetual report indicated that the university level was the appropriate level of analysis, with different indicators of organisational effectiveness that had no relationship with the indicators of the dominant coalition respondents. The theoretical problem showed that universities were considered as unitary systems rather than being loosely coupled, having various schools, departments and other units all with different objectives and different products. Fourthly, Goodman et al. (1983) entirely condemned the ratings of the students' academic development and professional faculty development by the dominant coalition as a way of forcing aggregation on the generality of the institutions, which is inimical to higher education institutions' organisational effectiveness. Finally, the criticality of the time frame for measuring organisational effectiveness was not adequately identified by Cameron (p.171). In view of these criticisms, it becomes very difficult to accord Cameron' study a universal generalisation.

In an effort to reduce the complexities of organisational effectiveness, Cameron and Whetten (1983, pp.269–275) point out that an informed assessment of organisational effectiveness must be subjected to many critical design parameters, and seven questions were formulated as guidelines. Those questions include:

1. From whose perspective is effectiveness being judged? The criteria used by different constituencies to define effectiveness often differ markedly and can follow from unique constituency interests.

2. On what domain of activity is the judgement focused? Achieving high levels of effectiveness in one domain of activity in an organisation may work against effectiveness in another domain.

3.   What level of analysis is being used? Effectiveness analysis at different levels of analysis in an organisation (e.g. sub-units' activities versus organisation adaptation) may not be compatible.

4. What is the purpose of judging effectiveness? Changing the purpose of an evaluation may change the consequences and the criteria being evaluated.

5. What time frame is being employed? Short-term effects may differ to long-term effects, while the performance of organisations at different stages of life cycle may not be same.

6. What types of data are being used for judgements of effectiveness? Official documents, perceptions of members, participant observations and symbolic or cultural artefacts may all produce different conclusions about effectiveness of organisations.

7. What is the referent against which effectiveness is judged? No universal standard exists against which to evaluate performance, and different standards will produce different conclusions concerning effectiveness.

No doubt these questions are important, but, in addition, the environment in which an organisation operates must be addressed. This is because the environment in which institutions operate in developing countries, particularly in Nigeria, is incomparable to how institutions operate in the developed world. An environment that is conducive will no doubt be characterised by effectiveness of criteria, rather than the chaotic environment in which the polytechnic institutions are known to exist. Effectiveness as a construct must match the profile of an organisation and its environmental conditions. Furthermore, what constitutes short- or long-term effects on the performance of organisations may be difficult to determine? Due to lack of conclusive uniformity in these questions, organisational effectiveness looms large in the organisation theory but remains a mystery to be solved.

Quinn and Cameron (1981) and Lysons   (1999, pp.43&44) maintain that effectiveness criteria can be determined at different life-cycle stages of every organisation, of which four have been identified: the entrepreneurial, the collectivity, formalisation and control, and elaboration of structure. The entrepreneurial stage represents innovative, creativity and resources acquisition, with the open systems criteria as effectiveness determinants. The collectivity stage is concerned with the human relations model, where informal communication and structure, cooperation and commitment of family members, and leadership are signs of effectiveness. The formalisation and control stage is judged by the internal process and rational goal, with elements such as organisation stability, efficiency of

production, rules and procedures, and conservative trends as effectiveness criteria, while the final stage, elaboration, deals with the external environment monitoring for expansion or renewal, or expansion or both, as effectiveness criteria.

Linking the Australian higher education system to various life-cycle frameworks, Lysons (1999, p.61) argues that an organisation at a different life cycle is characterised by different and unique management styles, policy committee climates and cooperation in every facet of it. This is in consonance with contingency literature, which is against the views of binary or unitary advocate researchers. He concluded that higher education institutions, as they approached the new millennium, must be innovative and willing to learn if effectiveness is to be achieved (p.62).

However, the submission of Quinn and Cameron (1981) is full of ambiguities, as the life-cycles criteria are not consistent with the goals of higher education institutions in a developing country like Nigeria. This is because it is difficult to determine the best and most superior stage when an institution becomes more effective when compared to others, as life-cycle stages are interwoven and inter-related; as such, Quinn and Cameron did not bring any solution to the confusion and controversies surrounding organisational effectiveness criteria.

Sharif, Ahmad and Kausar (2011, p.5) conducted a research on the relationship between organisational effectiveness and human resources professionals. Two private universities were used, with one from Pakistan, regarded as the A university, and from Malaysia, as B university. The institutions offered business, technology and education multi-disciplinary related programmes. A survey of 73 and 66 questionnaires were used as data, in which 70% and 44% response rates were recorded from the two institutions respectively.

Three dimensions of effectiveness, leadership, organisational support and reward system, were evaluated. Leadership was defined as organisation leaders' behaviours and decision-making processes, organisation support as provision of infrastructures and reward system as a resource, moral support and how each affected the employees' performances.

The results showed that there was correlation between leadership and effectiveness in the two institutions. In terms of organisational support, the effectiveness rate was very low in AU, but high in BU, while the reward system recorded fair responses in both institutions. However, the weakest predictors were organisational support at AU and the reward system at BU (p.9). The implications for the study were that the effectiveness of human resource professionals was associated with leadership and a reward system at AU, while organisational support was a non-factor. At BU, conversely, effectiveness was related to leadership and organisational support, while the reward system indicated a non-factor. One can therefore

infer that because the two institutions are separate, the results reflect the differences in their set-up.

Sowa, Selden and Sandfort (2004) conducted a research on organisational effectiveness using the multidimensional and integrated model on non-profit organisations. Two distinct dimensions were evaluated, management and program effectiveness, which were further classified into capacity and outcomes as sub-components. They considered management as the internal activities of managers, as well as structures and processes, which lead to outcomes, while specific intervention by organisations constituted programmes. According to the researchers:

> An effective organisation needs to operate effectively at both the
> management and program levels. An organisation that is well
> managed and operated but delivers poor programs is not fully
> effective, just as an organisation that delivers well-run programs
> but have unhappy staffs or poor overall organisational operations
> is not fully effective (p. 715).

Furthermore, capacity is defined as how the structures and processes of organisations that govern employees' actions are operated. Outcomes are the achievable results through management activities. Sowa et al. (2004) argue that, while outcomes can be regarded as a means of organisational effectiveness, it should be noted that there are complex and various hidden measurements that differ between programmes from institution to institution in order for outcomes to be improved. The task therefore is for academic leaders to understand their structures and processes, and how they support or hinder their outcomes (p.714). They concluded that the construct effectiveness model must be understood as multidimensional, integrated and socially organised if scholars and practitioners desire for a greater level of effectiveness (p.724).

Mintzberg (2003) identifies five important factors; convergence, congruence, configuration, contradiction and creation, which an organisation must embrace in order to be effective. Convergence is associated with the machine form, which emphasises that there is only one, ideal way to design an organisation. Congruence's takes the "it all depends" approach, which is associated with the inclusion of numerous different smaller elements in the selection of specific needs; Mintzberg (2003) likens this factor to "choosing dinner from the buffet table". Within this factor, effectiveness is regarded as a concept of various

situations, and is considered a portfolio with a matching set of internal attributes. Mintzberg (2003) perceives congruence as a dinner plate served with an assortment of foods that are not good enough, which is a key factor, even though it is considered a tool of promotion and improvement towards organisational effectiveness. Configuration adheres to "getting it all together", which emphasises coherent harmony between the different segments of the organisation. Organisations are successful if they can be consistent in what they do and are able to be managed easily. Contradiction is of high importance to organisational effectiveness, as it is an approach that recognises the dynamism of the environment and finds means of managing it. Creation is the ability of organisations to recognise and understand their inner nature and the image underlying it; it emphasises not only to do things right but to continue to do these right things. According to Mintzberg:

> Some organisations keep inventing novel approach that solve
> fostering problems and so provide all of us with new ways to
> deal with our world of organisations (p. 467).

While the five factors are of great importance to organisational effectiveness, they too have their limitations. For example, it is not feasible to have one single best design for organisations, as noted with regard to the convergence factor.

Heck, Johnsrud and Rosser (2000) conducted a research in which the effectiveness of university deans and directors were monitored and evaluated. Noting that little empirical studies had been carried out on higher education administrators (p.664), a role-based evaluation was adopted, which suggested that important indicators of the deans' roles be used for effectiveness evaluation. Data were collected from 900 faculty and staff members for the evaluation of 22 deans, while seven leadership criteria were used: vision and goal setting, management of the unit, interpersonal relationships, communication skills, research, professional and campus endeavours, quality of education in the unit and support for institutional diversity. Data was collected through questionnaires, while the preference for evaluation was based on Likert scales (p.671).

The results of the study revealed that the highest rated dean received the highest level of effectiveness across six dimensions, except quality, which showed a low 1.22 standard deviation. On the other hand, the lowest rated dean only received the highest effectiveness in the interpersonal relationships criterion, with a 9.1 standard deviation (p.676).

Rosser, Johnsrud and Heck (2003) replicated the research on the evaluation of effectiveness of deans and directors using the same seven dimensions. Data were collected from a doctoral research university in western America through survey, which recorded a 54% response rate based on the same 22 deans. Results showed that effectiveness of leadership can be measured at both individual and unit levels. It also revealed that deans at the helms of affairs of larger units were rated higher in terms of effectiveness (p.18).

However, the evaluation based on the sex of the deans indicated that female deans were rated more highly than their male counterparts in terms of leadership effectiveness, while departmental chairs rated their deans higher in terms of leadership effectiveness, rather than other faculty and staff members (p.19).

Yet the implications of these researches suggest that, while they are similar, the results differ significantly when indicating that effectiveness criteria at a particular period of time may not be same at another. The results revealed that what transpired in 2000 was no longer the same in 2003, as many changes occurred that were reflected in the results. This is in line with Steers' (1975) study on the problems of measuring organisational effectiveness under the instability criterion (p.552).

Kwan and Walker (2003) conducted a research in which organisational effectiveness was posited as second-order construct in Hong Kong's higher education institutions. The major purpose of the study was to test whether Cameron's nine dimensions of organisational effectiveness were applicable to the Hong Kong higher education system (p.706). Seven institutions participated and only 481 out of 4006 questionnaires were returned, which represented a 12% response rate. Seven out of Cameron's nine dimensions were found to be suitable for Hong Kong's higher education system (p.713).

The results showed that only with modifications could Cameron's dimensions be applicable to the Hong Kong higher education system. Furthermore, the results suggested that academic staff in Hong Kong were not concerned with the personal development of the students, as their main responsibilities were to teach them in order to increase their educational experience (p.719). As far as the dimensions are concerned, the results indicated that students' career development was rated as the most significant organisational effectiveness, with standard deviation of 0.67. Successive ratings showed systems openness at 0.68, students' career development at 0.73, student education satisfaction and personal development at 0.77, community interaction at 0.85, quality of the faculty and ability to acquire resources at 0.89 and faculty employment satisfaction at 0.94.

The implications, therefore, are that Cameron's results are not universal and, thus, not applicable to all higher education institutions. This is in conformity with the study of Goodman et al. (1983, p.171), who consider Cameron's study to be non-universal. Additionally, it demonstrated that the culture in America, in terms of higher education, is different to that of Hong Kong; organisational effectiveness still proves to be a multidimensional construct, while the response rate was too low at 1.25, as this may invalidate the results.

Kondalkar (2009) introduces the behavioural approach and its relationship with organisational effectiveness. The approach emphasises that, for organisations to experience effectiveness, there must be a harmonious fusion of the employees' goals with those of the organisation. He maintains that employees, in terms of competence and performance, are necessary ingredients for the achievement of the organisational goals, positing that effectiveness under the behavioural approach can be viewed from three perspectives: low degree, high level and ineffectiveness. A low degree of effectiveness is experienced when organisations fail to align the employee goals with their own, meaning simply that individual goals are separated from those of the organisation. A high level of effectiveness is experienced if such aligning of employee and organisational goals is successfully integrated, while ineffectiveness occurs when the organisation is unconcerned with employee satisfaction. Instability, inefficiency and employees' loss of interest all result from organisational goal achievement with no attention paid to individual goals, and thus one problem degenerates to many (pp.6&7).

While recognising that effectiveness achievement can be a complex issue, Kondalkar (2009, p.7) opines that systems and processes, organisation strategy, harmony among staff, cohesiveness and the personal development of individual employees leads to a desirable level of organisational effectiveness. Kondalkar (2009, p.1) appreciates the fact that organisational effectiveness is very difficult to evaluate, but maintains that any effective organisation must embrace the following factors: technology level, employees' knowledge base, financial strength, skill variety, employees' satisfaction level, customer satisfaction, social responsibility, social obligations, investors' satisfaction, profitability, growth, market position, processes and systems application and updates, quality control, total quality management and technique applicability. He equally enjoins that these factors be expressed in terms of production, quality, efficiency, flexibility, satisfaction, competitiveness, development and survival. Since organisations differ in their operations, the most essential task is for top managers to choose between the various factors that can ensure effectiveness in

their organisations, as the factors are numerous and the same may not be applicable to all organisations.

Kondalkar's view of organisational effectiveness is as depicted in Figure 3 below:

Figure 3: Organizational Effectiveness Model

Individual Effectiveness depends on:	Group Effectiveness depends on:	Organizational Effectiveness depends on:
Ability	Cohesiveness	Environmental
Skills	Leadership	Social Responsibility
Personality	Status	Stakeholders Satisfaction
Knowledge	Members Roles	
Attitude	Norms followed	
Level of Motivation	Synthesis of Individual and Group Objectives	
Level of Stress	Group Structure	
Emotion		

Internal Environmental Factors

External Environmental Factors

Organization Processes

Organization Policies

Technology Integration

Knowledge Management

Organizational Culture

Organizational Restructuring

ORGANIZATIONAL EFFECTIVENESS

Market Forces

Technology

Government Rules & Regulations

Financial Support

Source: V. Kondalkar (2009, p.8)

3.4 Problems of Measuring Organisational Effectiveness

Steers (1975, pp.551–55) enumerates eight problems associated with measuring organisational effectiveness: construct validity, which is a concrete phenomenon but defined as an abstract construct, as there is no consensus criteria to be included in the effectiveness domain; instability of criterion over time, as evaluation criteria used at a particular time may not be useful at another; time perspective, which focuses on the time of effectiveness evaluation to balance short-run considerations with long-run interest for purpose of growth over time and stability maximisation; multiple criteria when variables conflict with each other; precision of measurement, which advocates for a precise, accurate and consistent effectiveness concept; generalizability, which aims to generalise evaluation criteria to organisations; theoretical relevance, which emphasises development and integration of models and the effects, or how they are affected by other variables found in the structure and behaviour of organisations; and finally, level of analysis, which specifies and accounts for the relationship between the individual processes and organisation behaviour.

The problems surrounding organisational effectiveness are indeed numerous and will continue to generate controversies in the literature of organisational theory while its importance cannot be underrated, as it represents a central phenomenon by which the performance of organisations can be evaluated. The problems of effectiveness, therefore, are continuing ones, as solutions to the ambiguity and confusion surrounding organisational effectiveness is not yet in sight.

However, a turning point occurred in 1983 in the debate surrounding organisational effectiveness when Goodman, Atkin and Schoorman (1983, pp.164–67) called for moratorium on all studies of effectiveness. Five reasons were advanced in support of their assertion: no single parsimonious model or theory; the absence of theory having brought forth atheoretical and non-cumulative empirical studies of organisational effectiveness, which prompted them to refer to the existing studies as "stylized facts"; no hope of future convergence on a single theory of organisational effectiveness; an advocate for micro studies of specific organisational outcomes; and lastly, moratorium being the answer. The call on moratorium on effectiveness measurement can be likened to removing the icing sugar from a cake; where lies the sweetness then? The call was therefore not only an academic assault, but also an intellectual assassination, as the presence of effectiveness as a major tool of performance cannot be removed from academic literature. However, the call did not ultimately come to fruition, as further studies on effectiveness continue to emerge, particularly the Competing Values Model (Quinn and Rohrbaugh, 1983), which incidentally

came into being in 1983, the same year that the moratorium call was made, and has since then become something of a celebrity among researchers.

Summary

This chapter presented the literature review, which revealed that the study of organisational effectiveness will continue to be a benchmark by which the performances of organisations can be evaluated, including higher education institutions, despite the somewhat thorny issues surrounding its definition and evaluation.

However, the literature also reviewed the goals, systems resources, multiple constituencies, internal processes and ineffective elements. The goal model emphasises the ability of organisations to accomplish both official and operative goals; the systems model is concerned with how organisations can acquire resources from the external environment; the multiple constituencies' model focuses on how organisations satisfy the goals of their numerous stakeholders; the internal processes model describes the efficiency and health of the internal effectiveness of organisations; and the ineffective model reflects a situation in which organisations have failed to achieve their desired goals.

Organisational effectiveness is of high importance, not only to organisations but also to the generality of the society. With the contribution of the models, organisational effectiveness has emerged as a construct, which has led to noncumulative efforts towards achieving a common framework. The unfortunate factor to understand, however, is that no model or criteria can arrogate the monopoly of wisdom as being superior to other models or criteria. The domains of organisational effectiveness are numerous, as shown in the literature, and no organisation can be entirely effective in all domains, which was why Cameron (1978) noted that most of the effectiveness criteria are usually derived from the literature upon which the frameworks are built. The models and criteria reviewed are inter-related activities, but were found inadequate for the evaluation of effectiveness, hence the usage of the competing values framework. The next chapter of the study will explore the theoretical framework.

CHAPTER FOUR: THEORETICAL FRAMEWORK

Figure (4) below depicts the competing values framework adapted for this study.

Figure 4: **Competing Values Framework**

Flexibility

Human Relations Model	Open System Model
Means: Training and Development	**Means: Flexibility**
Ends: Value of Human Resources	**Ends: Growth, Innovation, Resource Acquisition, and External Support**

Internal ← QUALITY OUTPUT → **External**

Internal Processes Model	Rational Goal Model
Means: Information Management Communication	**Means: Planning Goal Setting**
Ends: Stability, Control, and Sense of Continuity.	**Ends: Productivity Effectiveness**

Control

Source: Researcher

The inability of the related review of the literature to provide answers to the research questions led to the use of the competing values model as the theoretical framework for this

study. As stated by Connolly et al. (1980), this framework uses a single set of evaluative criteria.

Tracing the historical background of organisational effectiveness and the competing values framework, Quinn and Rohrbaugh (1981, p.124 & 125, 1983) assert that a theoretical framework has become a necessity, which must satisfy the following conditions: there must be one level of analysis; there must be integration for a more holistic view; it must resolve multiple criteria problems and offer amenable options to suit empirical criteria; coalition, dynamics, across time, and the perspective nature of recognition in organisations; it must also function as an analytical tool that facilitates comparison and generalisation of findings across studies. According to Quinn and Rohrbaugh (1981), such a theoretical framework will provide:

> 'A clear definition, common language, greater consistency in the construction of criteria, an increased capacity to compare results, and more simplified, systematic, and useful evaluation of organizational effectiveness' (p.125).

In the present study, ten criteria are used to evaluate organisational effectiveness based on the competing values framework developed by Quinn and Rohrbaugh (1981, 1983). This framework recognises that organisational goals are conflicting, numerous and simultaneously pulled in opposite directions due to the expectations of multiple stakeholders. The controversies and confusions surrounding the debate on the criteria and evaluation of organisational effectiveness led to a consensus among researchers that a multidimensional model, where competing values are recognised, was needed.

As noted by Cameron (2005), Cameron et al., (2006), Cameron and Quinn (2011), and Daft, Murphy, and Willmont (2010), the competing values framework is more comprehensive than any of the popular organisational effectiveness frameworks that are available. The model incorporates several criteria into a single framework for measuring organisational effectiveness while recognising the possibility of competing values among multiple stakeholders. Each of the four ideal models has an implicit means-end theory.

Thus, the ***human relations model*** in the upper-left quadrant emphasises flexibility and an internal focus. Cohesion and morale are viewed as the primary means by which the ultimate end of human resources development is achieved. The ***open systems model*** in the upper-right quadrant emphasises flexibility and an external focus. Adaptability and readiness

are viewed as means to achieve the primary ends of growth, resource acquisition and external support. The *rational goal model* in the lower-right quadrant emphasises control and an external focus. Planning and goal-setting in this model are considered to be the primary means by which the organisation accomplishes its ultimate ends of high productivity and efficiency. The *internal process model* in the lower-left quadrant emphasises control and an internal focus. Here, information management and communication are means of achieving the ultimate ends of stability, order and control (Quinn and Rohrbaugh, 1981, 1983).

4.1 Human Relations Model

The human resources of an organisation include the professional, managerial, technical and support staff. Human resources are regarded as one of the most valuable assets that can promote effectiveness in an organisation, especially where the people required to do the basic jobs are highly-trained people (Lusthaus et al., 1999). Some of the components of human resources management include planning, staffing, training and development, assessments and rewards, and maintaining effective human resources relations.

In research conducted on 44 heads of higher education institutions and their heads of human resources and personnel, Archer (2005) notes that human resources in higher education can best be described as mission-critical, whose transformation depends on investment in people as institutions and looking for different and better ways of doing things. In answer to the question of why human resources are of great importance, Archer (2005) states that characteristics such as diversity of services and people, government relationship, unionism, local and regional significance, international dimension, customer empowerment, and resistance to change represent ways of both preventing the best practitioners from leaving the sector and attracting professional practitioners from outside.

According to Sims (2002), what distinguishes between a successful organisation and the failure of another is not dependence on rational, quantitative approaches, but increasingly on commitment of people, employees and consistency. Therefore, organisational success today and in the future depends on effective human resources management. Human resources are regarded as the philosophy, policies, procedures, and practices associated with organisational employees' management. Sims (2002) identifies strategic management, recruiting and selecting employees, training and development, performance appraisal, career development, compensation, safety and healthy work environment, labour relations, and collective bargaining as comprehensive functions of human resources management.

Based on the underlying assumptions guiding the human relations model explained above, this study focuses on:

- Staff training and development,
- Remuneration, and
- Campus human relationships.

4.1.1 Staff Training and Development

The staff training and development shows the extent to which the polytechnic institutions' staffs are trained to better serve institutional needs. Training and development do not come cheap to organisations, but failure to realise the impact of training and development can cost the organisation many benefits, most especially in a competitive environment (Cartwright 2003).

Pont (2003) asserts that training people as individuals promotes confidence and competence, noting that training as a learning process provides numerous and varied opportunities. Describing the training field as a rapidly-growing sector, Pont (2003) identifies two types of training: technical and vocational training; and personal development programmes. He cites the pace of change and the attitudes of employers and employees as the most tenable reasons for the development of training. Pont (2003) also identifies three main areas of training needs: organisational level most-needed training; occupational level most-needed skills, knowledge and attitude to perform various jobs effectively and competently; and individual most-needed training which focuses on bridging the gap between people's present positions and future acquisition of skills, knowledge, attitude and competence. However, Pont (2003) and Reid et al. (2004) conclude that the overall goal of training and development is to provide satisfaction and benefits to employees and employers respectively that lead to personal and organisational growth.

Similarly, McCaffery (2010) points out that higher education training and development has come a long way in a short period of time, which was due to the sudden occurrence and popularisation of a parallel phenomenon. This can best be described as the concept of organisational learning. McCaffery (2010) maintains that any approach to an institution's training and development is always found in the institution's overall human resources strategy.

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Harrison (2005) identifies three approaches to training and development. The first is the comprehensive approach which involves a systematic, full-scale analysis of all training and development required by the organisation as perceived by relevant stakeholders. It anticipates an institution-wide staff development plan favoured by a relatively stable institutional environment deeply rooted in a specialist staff development function. The associated risks are confined to the development of gaps in skills related to the present roles. The second approach, the problem-centred approach, requires an immediate training and development response. The major concerns are the unpredicted environment and severe resource constraints. The basic risk is that of losing long-term direction. The third approach, the business strategy approach, recognises the top-down hierarchy control. In terms of the assessment and development of the institution, the primary responsibility for staff development is placed on the shoulders of the heads of department as key drivers in a highly-competitive environment. This is to ensure confidence. However, the innovation failure that results from the bottom-up hierarchy control, which means that individual professional fulfilment is taken for granted compared to business-led activities, represents the risk associated with this approach.

Aswathappa (2007) recognises skills, education, development and ethics as training and development inputs which enable employees to gain the required skills, theoretical concepts, and vision towards the future. He concludes that while training and development must impart ethical orientation, there is also a need to emphasise attitudinal changes and decision-making and problem-solving abilities.

4.1.2 Staff Remuneration

According to Evans & Chun (2012), remuneration provides a significant opportunity to build accountability, engage faculty and staff, and transform organisational culture in support of institutional values and for such values to be realised, remuneration must be aligned with the institutional mission and goals (p.65). Further, remuneration enables organisations to recruit competent staff, and each job offers an appropriate rate of pay that is fair, competitive with market trends, and applied across all jobs (Horvathova and Mikusora, 2011).

This criterion focuses on how well the staffs of the polytechnics are satisfied with their salaries and wages. Aswathappa (2007) describes remuneration as the compensation received by an employee for his or her contribution to the organisation. He asserts that a significant part of the life of the employee, such as standard of living, status in society, motivation, loyalty and productivity, depend on the remuneration received by the employee. Furthermore,

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he recognises the fact that the battles fought between the employers and the employees emanate from strikes and lockouts relating to issues about wages and bonuses.

In Nigeria, Nwosu, (2013) notes that the condition of service and remuneration of both academic and non-academic staff of higher education institutions is not at par with what is obtained in other parts of the world. This is the reason why unions of higher education institutions down tools every given time with its spiral effects of irregular school calendar, non-completion of course outline leading to the graduation of half-baked graduates (p.370). The polytechnic institutions in Nigeria are experiencing this situation as they have embarked on strike since 2013.

For human resources management, remuneration represents a major function as human resources specialists have sometimes found it extremely difficult to fix wages and wage differentials that are acceptable to the employees and their union leaders (Aswathappa 2007, p.273). Aswathappa (2007) regards wages and salaries, incentives, fringe benefits, perquisites and non-monetary benefits as major components of remuneration. Wages and salaries are hourly and annually paid, incentives represent payment by results and can be individual and group incentive programmes, fringe benefits include gratuities, a provident fund and medical care to mention but a few, perquisites are executive benefits such as company cars, paid holiday, a furnished house, club membership and stock option schemes, and non-monetary benefits include merit or service recognition, growth prospects, competent supervision, job-sharing, comfortable working conditions and flexitime. Remuneration serves as a strong motivation to achieving effectiveness.

In Nigeria, hourly paid remuneration is not common in higher education institutions most especially for tenure track employees. What operate are salaries and wages based on total annual package payable on monthly basis while, level of qualification, experience, and skills are the factors used for determining the remuneration. According to Altbach et al (2012), what constitutes an academic salary involve many factors in various sectors and countries and as such comparisons internationally has been extremely difficult because academic salaries are perceived as complex construction of basic salary and supplements, bonuses, allowances and subsidies (p.8).

4.1.3 Campus Human Relations

According to Hegar (2011), campus human relations represents a process through which management brings employees together in order to achieve both organisational and individual objectives, while Erchul and Martens (2010) consider campus human relations as

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interactions between the organisation and the employees to form alliances of psychological variables. Hegar (2011) observes that one of the most topical issues in the industry today is good human relations and their importance to management, noting that good human relations are largely a modern development.

Emphasising the results of Hawthorne's studies in the 1920s as the originator of Human Relations, Hegar (2011) maintains that organisations are social networks involving interactions of people, acceptance and approval of fellow workers, and work enjoyment as a social exchange experienced in the course of work rather than formal structures in which subordinates report to supervisors.

Dalton et al. (2010) define human relations as interaction of relationships among people and how gained knowledge can be used to improve personal job and career effectiveness. They contend that good human relations broadly encompass all areas of interactions, including conflicts, collaboration and groups. They maintain that good human relations contribute to effective performance and must involve a combination of knowledge, experience, skills and attributes that recognise cognitive skills, relationship skills and capabilities. People with strong and good human relations skills show positive teamwork with others and are more likely to achieve greater success in their personal and career lives (p.30).

Examining the importance of good human relations from the leadership concept, Reece et al. (2010) assert that many leaders believe that human relations courses are absolutely necessary because very few workers are responsible to themselves. Most jobs in organisations today are interdependent. When people find it difficult to work effectively with co-workers, there is no doubt that the efficiency in the organisation will suffer.

Reece et al. (2010) postulate that teamwork represents the healthy functioning and effective human relations foundation of any organisation. They maintain that when practised positively and supportively in an organisational environment, good human relations tend to increase productivity and efficiency significantly. Therefore, good human relations can be perceived as a major criterion through which organisations can be made effective.

4.2 Open Systems Model

The open systems model parallels the systems resource model and considers criteria such as the ability of the polytechnic institutions to acquire resources through government subventions, generate revenue internally, and how much support they have from other sources of resource acquisition, physical infrastructures, and accreditation. Notable

researchers (Abiodun & Oni, 2010; Ajayi & Ekundayo, 2009; Akinsanya, 2007; Akintoye, 2008; Diarra, 2003; Itegboje, 2006; Ojo, 2006; Okuwa, 2004; Olayiwola, 2010; Oluwatobi & Ogunrinola, 2011; Omotor, 2004; Yabani, 2006; Yakubu, 2006) decry the deplorable conditions of higher education in Nigeria due to the lack of adequate funding, accountability and transparency, deteriorated infrastructures, brain-drain syndrome, and graduate unemployment to mention but a few. However, this model considers three criteria:

- Ability to acquire resources,
- Physical infrastructures and equipment, and
- Accreditation.

4.2.1 Ability to Acquire Resources

The World Bank (2010) maintains that for Sub-Saharan Africa (SSA) to reap the benefits of human capital investment, substantial financing to provide quality training and sound professional prospects for their students must be provided by higher education institutions. The reason for generating revenue internally is to augment government subsidies for campus developmental purposes through diversification.

Ehrenberg (2001) argues that the drive to generate extra revenue for the core activities has made some notable higher education institutions move aggressively to establish private for-profit subsidiaries for the purpose of generating additional revenue for their core activities. He notes that the responses from the state include online learning to reduce pressure on facilities and crowding in public campuses. The private responses include more use of endowments, evening programmes, executive programmes, and the Internet for distance learning, and due to a larger student population, the private institutions are more like the public ones. He states:

> Motivation shifts from service rendering to greater revenue
> generation to support core academic programs. If economic
> growth is sustained and continues, academic institutions'
> financial prospects will be much brighter through dependence
> on diversification of their revenue sources because institutions
> must diversify their revenue sources to be successful in the
> decade's ahead (pp.12-15).

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In their support for additional resources, Kunzel (2004) and Herbst (2007) maintain that other income streams must be tapped because the costs of higher education services are not covered by the price and the tuition fee only covers an inadequate fraction of the amount required to provide the services.

In the status report on higher education in Nigeria, Saint et al. (2003) lament the inability of institutions to generate more funds from students pursuing undergraduate courses in federal institutions due to limits on spending for tuition. They note that this remains a great potential source left untapped, and they explain that what is expected of the government is to introduce sound financial strategies to stop the erosion of educational quality, promote resource efficiency, and enhance learning effectiveness.

The World Bank (2010) contends that for higher education institutions to develop income-generating activities, sufficient autonomy must be achieved and enjoyed by them. This is to enable them to manage their budget in accordance with their developmental objectives. Regarding the redistribution of the generated resources, the World Bank (2010) advises that genuine transparency should be taken into consideration.

Kunzel (2004) concludes that for successful output-oriented financial management, higher education institutions must be able to build up financial reserves without having to fear that they might be confiscated by the state authorities. They must own properties and manage their real estate with the necessary financial funds being part of the university budget, employ their academic and non-academic staff at terms compatible with the operational requirements of teaching and research, recruit their academic and non-academic staff without any outside interference, select their students, and offer educational programmes on the basis of contractual funding regulations with the state.

Pawlowski (2006) defines entrepreneurship from an institution's perspective:

> Entrepreneurship refers to the reactions of an institution's authorities in an entrepreneurial way acquitting with the environment or needs of companies and public administration, including social needs. It has nothing to do with the hierarchical creation of an organization's structure of heads of institutions that will reign for some time. Task groups' research application for problem solving not confined to education arena alone. Must focus on higher internal mobility and efficiency. The organization's structure must be flexible, with every

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unit of the institution interacting as a team. In essence, the

entrepreneurial institution must be closer to the environment and the

community where it is located to enable the faculty to interact with the

grass roots' (p.143).

According to Clark (1998, pp.3-4), the term entrepreneurship can be distinguished among institutions which have taken the traditional mode as a way of life and those which are willing to change the future of their institutions for the better. He describes entrepreneurship as a social system that affects the entire institution, including the constituent parts found in faculties, departments, research centres and schools. The system requires special activity and energy. It is a risk-taking venture that may yield a substantial major outcome. It is a way of innovating business and a determining a promising and fulfilling future. It is an encouragement to institutions whose ambition is to raise their heads above troubled waters and become in their own terms 'stand-up' institutions with significant actors. Entrepreneurship among institutions reflects a process and an outcome.

Clark (2001) notes that if institutions are managed well by a strong leader with a clear, forward-looking vision, this may encourage entrepreneurial development rather than stifling it and does not make institutions subordinate to industry. He posits that:

> The creation of entrepreneurship is a systemic attitude that is
> neither based on personality nor an organizational life-cycle stage,
> but rather a way of managing, where one pursues opportunities
> beyond means that are currently available (p.16).

In conclusion, he asserts that entrepreneurship is not a stage that can be passed through once and forever, but rather a process without end. It is the creation of incremental results, a fashion, and a flexible organisational character that can be adjusted and readjusted with better responses to rapidly-changing demands.

4.2.2 Physical Infrastructures and Equipment

Describing learning as a social activity, infrastructures must foster changes to encourage active learning and experimental pedagogies, touch the whole person, speak to individual emotions and spirits, and command intellectual capacity (Cameron, 2003).

According to Lusthaus et al. (1999), infrastructure can enhance effectiveness in learning if basic conditions such as reasonable space in a building, provision of clean water, a dependable supply of electricity, and a functional transformation system are put in place. Comparing developed and developing countries, infrastructure is well represented; however, it is problematic in developing countries as adequate infrastructures cannot be ensured, and this is why infrastructures remain a major concern in developing countries.

The National Audit Office (2008) considers new physical structures as institutional external appearance improvement with up-to-date facilities for academic and vocational learning provision. However, it lists the problems of physical infrastructures as buildings with unattractive physical appearance without sectoral reputation and creating poor perceptions in learners, employers, and community, buildings having too much space with high cost of maintenance and poor energy efficiency, and poorly-designed buildings that are not suitable for learning and inaccessible for those with disabilities. The abilities of the polytechnic institutions to provide good physical infrastructures will no doubt enhance their learning effectiveness.

4.2.3 Accreditation

Accreditation is the extent to which the polytechnic institutions fulfil the minimum requirements on programmes offered to the satisfaction of faculty and students. Concerns about what institutions represent to society have forced educational stakeholders to embrace accreditation. In developing countries, most especially in Nigeria where there is a proliferation of higher institutions, accreditation has become a norm. According to Eaton (2003), accreditation is viewed as a controversial topic of debate which has no consensus, but she notes that its importance to the existence of an institution is of immense value. She defines accreditation as 'a process of self-regulation created by higher institutions and programs to ensure and improve quality' (p.3).

Eaton (2003) and Materu (2007) explain that the process of accreditation occurs when the accrediting organisation sends a team of review peers to the institution or programme and makes a judgment on whether accredited status is achieved based on accepted standards set by an external body such as a government, a national quality assurance agency or a professional association. According to Harvey (2004) and Kretovics (2011), accreditation denotes the establishment or status restatement, legitimacy or appropriateness of an institution, programmes (i.e. composites of modules) or study modules. Kretovics (2011)

identifies institution accreditation and professional accreditation as two major types of accreditation. While institution accreditation represents a licence to operate, based on an evaluation of meeting minimum specified standard such as staff qualifications, research activities, student intakes and learning resources, professional accreditation represents academic standing based on production of professional competence to practice. Moreover, he provides a rationale for accreditation as primarily sector control and effective monitoring to ensure institutions meet the expectations of accredited institutions.

Accreditation is essential to the higher institutions in developing countries because it enhances the image of institutions, most especially in the labour market, represents a great tool for competition among institutions, and makes the alumni proud of their old institutions. In a country where accreditation has become a mandatory policy, it helps to distinguish legal institutions from illegal ones. However, accreditation alone should not be a sufficient judgment for the quality of programmes in institutions. In Nigeria, accreditation is a requirement for institutions before new programmes can begin, and it also serves as confirmation for existing programmes.

4.3 Rationale Goal Model

The rationale goal model parallels the goal model and is based on the assumptions of the theoretical framework. Strategic planning is the focus of the evaluation.

4.3.1 Strategic Planning

Strategic planning evaluates how the polytechnics make use of long-term planning to achieve their goals. Shattock (2003) makes it clear that higher education institutions must develop a strategy of long-term broad objectives that has realistic goals and is achievable over an unspecified scale. These objectives should serve as a guide and direction for academic departments, faculties, deans and administrators to enable them to determine the medium-term lines or priorities for the development of the institution.

Cope (1981) defines strategic planning as what an enterprise does to favourably position itself relative to its environmental resources. He emphasises that to plan, one has to take into consideration the present environmental position and its future, and he concludes that continuous and comprehensive environmental scanning is one of the major elements of strategic planning (1981).

Keller (1983) advises that before an institution can embark on any academic strategy, factors such as adequate information, the quality of teaching, research and services currently provided, and the best people that can carry out its intentions are put in place because no strategy can succeed without adequate data, high-quality equipment, programmes, performance, talented and dedicated personnel, and concentration on good management. He also clarifies what strategic planning is *not* in order to avoid confusion about its meaning: it is not the production of a blueprint; it is not a set of platitudes; it is not the personal vision of the president/rector/vice-chancellor or board of trustees; it is not a collection of departmental plans compiled and edited; it is not decision making done by the planners; it is not a substitution of numbers for important intangibles; it is not a form of surrender to market conditions and trends; it is not something done on an annual retreat; it is not a way of eliminating risks; and it is not an attempt to read tea leaves and outwit the future. According to Keller (1983), the essence of strategic planning is the way in which 'academic leaders give direction to the institution and devise the strategies, make the hard decisions, and allocate the resources that will support movement in that direction' (p.124).

Keller (1983) recommends six features which strategic planning *must* contain: academic strategic decision making must ensure that leaders are active not passive; the plan must look outward and make sure the institution adapts to the changing environment; the institution must be competitive within the economic market conditions; it must concentrate on decisions; it must blend with rational and economic analysis, political changes and psychological interplay; and above everything else, it must concentrate on the fate of the institution.

Kotler and Murphy (1981) identify three major levels of strategic planning which can make higher education activities more effective. The first level is the budgeting and scheduling process which every institution must undertake. The second level is the short-term planning involving student admissions, plant decisions, development efforts and curricular modifications. The third level is the long-term planning which involves qualitative and quantitative assessments of the external environments to determine institutions' strategies and priorities. Kotler and Murphy (1981) define strategic planning as 'the process of developing and maintaining a strategic fit between the organisation and its changing environment' (p.471).

4.4 Internal Process Model

The internal processes model parallels the technical aspect of the internal processes approach and provides three criteria for evaluation:

- Accountability,
- Internal resource allocation, and
- Information communication technology.

4.4.1 Accountability

Accountability is the ability of the management of public institutions to show that taxpayers' money is judiciously spent. Huisman and Currie (2004) acknowledge the fact that accountability measures in many systems have been placed on higher education policy agendas, and according to Stecher and Kirby (2004), accountability represents higher education products such as students, knowledge, skills and behaviour for which the practice of higher educational systems is responsible. Mulgan (2000) sees accountability from the control perspective as it serves as an effective way of controlling public power if the government can account for its actions. At the same time, it provides a mechanism for demanding explanations, applying judgments, and imposing sanctions on institutions that fail to achieve their purpose. He states:

> 'So central is accountability as a means of achieving control that
> it can easily be taken to stand for control itself' (p.566).

Mulgan (2000) explains that accountability possesses three features. Firstly, it is external; secondly, it involves social interactions and exchange; and finally, it implies right of authority. In the literature, the issue of sanctions as a result of accountability remains a hot topic and it is highly contestable.

Herbst (2007) considers accountability as a reform effort geared towards higher education, and a claim that cannot be disputed is that governments that are democratic in nature account to their constituencies while their agencies is made to be transparent. Institutions that are transparent in the same manner are mandated to be accountable, and this applies equally to higher education and other public sectors. However, Herbst (2007) cautions that such mandatory accountability is problematic, more so if the same measures are directly tied to effect changes through incentives or funding schemes. The implication is that systems

may adapt to meet the mandated accountability measures but they may deviate from the achievement of their goals and missions.

According to Trow (1996), accountability is a concept which links higher education institutions to their surroundings and supporting societies, which also represents an obligation to report to others, explain, justify, and answer questions about the effects of how resources have been used. Who is to be held accountable, for what, to whom, through what means, and with what consequences are the fundamental questions associated with the concept of accountability. Trow (1996) highlights the functions of accountability.

Accountability represses arbitrary powers and its corruptions, such as frauds, manipulations, and malfeasance, institutions' legitimacy is strengthened, and obligations to meet required criteria and report to appropriate authorities contribute to the quality of institutions' performance as perceived by both internal and external stakeholders. While it is a reality that accountability reflects on past reports, it nonetheless focuses on future actions. In summary, Trow (1996) maintains:

> Accountability is a force for external influence on institutional
> behaviour, an influence which can vary from a broad steer, leaving
> to the institution a measure of autonomy over the implementation
> of policy, to the direct commands of an external regulatory agency
> which uses accountability to ensure compliance with specific
> policies and directives, and designs its system of reports to ensure
> conformity (p.3).

Similarly, Salmi (2009) perceives accountability as the ethical and managerial obligation for which academic leaders must report their activities, performance and results as well as their unmet expectations. Salmi (2009) posits that within minimum expectations, academic leaders must maintain high integrity in the delivery of education services and display honesty in the use of financial resources as legal requirements for accountability fulfilment. He also argues that many stakeholders expect cost-effective use of available resources and the best possible quality and relevance of the programmes and courses offered by higher education institutions as legitimate claims. Linking accountability to autonomy and the general complaint by academic leaders in developing and transition countries associated with these two concepts, Salmi (2009) states that it becomes impossible for academic leaders experiencing limited autonomy to be fully accountable for their performance. The factors

observed include insufficient funding, lack of additional income generation, and lack of control over staffing, budgetary allocations, student admissions, number of faculty positions, level of salaries, and promotion policies.

According to Wangenge-Ouma and Langa (2011), external accountability was meant to satisfy the needs, obsessions, aspirations, and priorities of institutions' many stakeholders, which include parents, the government, professional bodies, students, and funding organisations. He describes external accountability as technologies of power.

Finally, Salmi (2009) proposes three basic principles of good accountability: firstly, accountability should focus on the results that institutions actually achieved and not on the way they operate; secondly, accountability works better when it is experienced in a constructive way rather than being imposed in an inquisition-like mode; and thirdly, the most effective accountability mechanisms are those that are mutually agreed or are voluntarily embraced by tertiary education institutions.

4.4.2 Internal Resource Allocation

Internal resource allocation in higher education is of high importance because it is concerned with the satisfaction of various units through the resources received. This criterion focuses on how polytechnic institutions manage their internal funds, the model in use, and the criteria for allocation, and see how effective the criterion is in achieving their goals. Notable researchers (Chevaillier, 2002; Herbst, 2007; Kogan & Becher, 1980; Massy, 2003) assert that resources are allocated due to perceived relative needs and are constrained by the availability of resources determined by fiscal policies and regulations. They emphasise that funds flowing into institutional systems or institutions for the purpose of annual base funding will have to be distributed down the line, noting that the internal allocation of funds is not a trivial matter as it shapes, to a greater extent, the character and performance of an institution.

Ehrenberg (2000) identifies four types of resource allocation used by research higher education institutions: *central control* where nearly all the revenue is under the control of central administration to cover costs while the balance is allocated to the spending units; *tub*, where each college or unit keeps the revenue it generates, including tuition fees and fees, but must be responsible for all costs incurred and funds are only remitted to central administration to cover shares of central costs; *tubs with franchise fees*, where each unit is regarded as a tub but remits more than its share of central costs and the franchise fee is allocated back to the units at the discretion of the central administration; and *activity-driven*

allocation, where each unit remits to the centre a share of its total expenditure, which differs across activities (e.g. teaching, research, etc.). The centre covers the central costs and allocates excess funds back to units without explicitly having calculated the central costs for each unit. In analysing these methodologies, Ehrenberg (2000) asserts that the tub reduces the central administration control over resources and the actions of the dean, and as such it is not the best way of allocating resources because it will not improve efficiency and cost control. The notion is that what is in the best interest of the individual unit is not in the best interest of the whole institution. Ehrenberg (2000) recommends that for incentives to be provided for the units to raise additional revenue and reduce costs, as well as contribute to the overall efficiency of the institution, variants of the tubs with franchise fees or the activity-driven models are preferred alternatives.

Massy (1996) identifies three factors for effective resource allocation. The first is to understand the incentives system that guides spending in higher education institutions. The incentives are based partly on intrinsic values and partly on instrumental ones. Mass-y advises that no institution should ignore the market place in order not to risk financial dislocation, while those that ignore intrinsic values in the academic vision and mission tend to behave like an ordinary business enterprise. The second factor involves recognising and managing the diversity of intrinsic values that abound within any higher education institution. Economic theory examines the role of self-interest which diverts resources away from institutional goals. The third factor is related to managing the complexity of resource allocation reform. The reform aims to move resource allocation from traditional central organisational units to decentralisation units. With regard to investment, Massy (1996) recommends the 'high-assay' principle, which means quality relative to the institution's mission, vision and goals delivered as productively as possible (p.7). He also contends that no meaningful transformation can be accomplished without first developing an appropriate resource allocation process because traditional resource allocation methods do not pave the way for the required re-engineering.

The resource allocation model (RAM) is defined as a means by which available resources are used judiciously to achieve the objectives of an institution to a high level of satisfaction. Morgan and Prowle (2005) and Woods (2008) support this view. Furthermore, Morgan and Prowle (2005) and Shattock and Rigby (1983) maintain that the RAM provides essential incentives to academic units in a devolved approach to enable those units to contribute to the strategic and financial objectives of the institution as a whole. In the resource allocation literature, distinctions can be made between centralised and decentralised

models. In the former, the top management directs the affairs of the institution and this is regarded as a top-down system of governance, while the latter is participatory and collegial, where decisions are not confined to the top management but include the unit segments of the institution. This is regarded as a bottom-up system. This is an indication that the power over how to spend the allocated resources rests on the faculty rather than the top management of the institution.

Jarzabkowski (2002) defines the centralised RAM as a way in which resources are authorised and allocated on a zero basis from the central pool because such a practice encourages institutional strategic directions.

Chevaillier (2002) argues that under a centralised system, the political authority dictates the resources allocated to institutions. He stresses that the highly centralised allocation of resources operates through the appropriation system in which resources are allocated to units in kind. This system makes all of the units cost centres, and the effect is that units are unable to spend as their purchasing power is eroded. The ability to substitute one resource for another is not possible. On behalf of units, the centre incurs all purchases made from the market and as such describes the budget of the unit as a list of drawing rights on various physical resources, valued at a price which can be the market price or any price calculated by the centre. Furthermore, Chevaillier (2002) distinguishes between charging units and withholding resource allocation from units. A unit which chooses to purchase a resource is charged by either the centre or by another unit, while an accounting device to record a planned use of resources by a budget unit constitutes withholding as it is not mandatory for accounts to be balanced within units but it can be done when required by altering the accounting prices. Chevaillier (2002) therefore concludes that if resources are allocated in this manner, a budget is nothing more than a set of figures describing a list of physical items expressed in monetary terms so that they can be compared and added. This does not attract any incentive that encourages efficient use of the resources allocated since transfers between budget lines are not allowed and any savings through under-spending cannot be carried forward. Units will attempt whenever possible to hoard unused resources to protect themselves from the impact of future budget cuts and other uncertainties. Chevaillier (2002) concludes that under a centralised model, incentives likely to promote efficient use of resources at the unit level may not be possible.

Flingert and Field (2001) advocate a flexible decentralised model. They maintain that it becomes absolutely unnecessary for any faculty to agitate for how much it will receive if it has no control over its resources. They provide reasons why a RAM is very important as

internal management to achieve strategic objectives and as wishes of users and external pressure. They also recognise the advantages and disadvantages associated with a RAM. The disadvantages are consensus and conflict in implementation, overhead costs, and small disciplines; the advantages are strategic fit, transparency, incentives and rewards, and reliability and predictability. Other researchers (Liefner, 2003; Nkrumah-Young & Powell, 2008; Simon & Dressel, 1976; Sizer & Morris, 1982; Thompson, 1997; William, 1992) have carried out comprehensive studies on internal resource allocation.

4.4.3 Information Communication Technology (ICT)

Information technology has reduced the world to a global village. As Massy (1996) rightly states, information technology represents a significant force in academic life. He lists some of its contributions as: transforming libraries and scholarly communication, sharing of information on a worldwide scale, sharing of resources according to user needs in real time, promoting online learning, introducing new competition, and improving teaching and learning through faculty time leverage.

According to Lusthaus et al. (1999), technological resources such as equipment, machinery and systems, including library systems, information systems, hardware and software, help organisations to function effectively. They contend that technological resources can increase capacity and performance through appropriate use, improve communication by keeping people informed about the latest information, provide avenues for institutions to join Internet groups, provide networks, joint-ventures, partnerships and coalitions, and provide opportunities for users to search the entire globe for new ideas and information.

Massy (2003) asserts that technology is changing the world most especially in how information is created, stored, retrieved and transmitted, and no doubt shaking the very foundation of academy. Massy (2003) identifies seven ways in which technology can enhance students' and faculties' efforts: it engages students in their education through learning; it provides the required flexibility that will change the rigidity of academes past through 'silos' that will turn vertical organisation into horizontal networked structure; it promotes codified knowledge through the impact of instruction; it can enable students to acquire knowledge beyond their campuses; it encourages learning through co-operation; it enables individuals to learn at their preferred pace and using their natural learning style; and it enables faculties to exhibit competence beyond facts and theory delivery.

Garrison and Kanyka (2004) conducted research on blended learning, which effectively integrates classroom face-to-face learning experience with online learning experience through Internet technology. Two of the numerous advantages of blended learning are: provision of ICT as a questionable tool for ideas and faulty thinking in an objective and reflective manner among participants; and it encourages students to express learning in a written form while face-to-face experience provides in-depth discussions, spontaneous enthusiasm, and a transformative environment that leads to critical, creative, and complex thinking skills.

Heterick and Twigg, (2003) conducted similar research and discovered that redesigned online learning encourages increased course completion rates, improved retention, increased student satisfaction, and better student attitudes to the course, contending that technology provides effectiveness to higher education. ICT no doubt will enhance the effectiveness in polytechnic institutions.

Summary

This chapter evaluated the ten criteria of effectiveness based on the competing values framework comprising four models. Three criteria, staff training and development, remuneration, and campus human relationships, were evaluated under the human relations model. Ability to acquire resources, physical infrastructures and equipment, and accreditation were evaluated under the open systems model. Strategic planning was evaluated under the rational goal model, and finally, the internal process model included accountability, internal resource allocation, and ICT as the criteria that were evaluated. The next chapter considers the research methodology.

CHAPTER FIVE: RESEARCH METHODOLOGY

The previous chapters discussed the literature review and the theoretical framework regarding organisational effectiveness in higher education with reference to polytechnic education in Nigeria. This chapter focuses on how the data was collected which represents an essential part of the study and a justification for why a specific methodology and method have been chosen. The chapter begins with the philosophical assumptions elaborating on what social science and behaviour are all about. It thereafter proceeds to examine the methodology, the quantitative and qualitative debate, the case study as a method, the sampling selection, institutional access, ethical considerations, the data collection methods, the case study analysis, and how the study was conducted.

5.1 Philosophical Assumptions

Many studies have been undertaken regarding philosophical assumptions and are well documented by notable researchers (Thornhill et al., 2007, p.101, Mason, 2002, Ritchie & Lewis, 2006; Lincoln and Denzin, 2000). According to Thornhill et al. (2007, p.101) the research philosophy relates to knowledge development and the nature of such knowledge philosophy being a clear deep thought, and posits researchers thoughts and language in terms of their analytic and linguistic understanding. This becomes a subject of necessity in research whenever the researcher deals with issues in-depth, and continually asks *"what, why and how"* questions in order to analyse underlying assumptions and progresses to the foundations of complex knowledge structures.

Thus, the focus on philosophising as a process leads to the belief that philosophy should be considered as any language conducted in a certain systematic manner by the researcher. In the literature, there are divergent opinions regarding the subject of the research philosophy. The debate regards how to distinguish between numerous philosophies that have emerged from each assumption as no single one can be said to be superior to another. However, the commonality among them is that they all contribute towards the acquirement of knowledge as each views life from a different perspective and enables the researcher to choose the one most suitable for the study being undertaken.

Creswell (2007, pp.16-19) provides five basic philosophical assumptions which include: ontology, epistemology, axiology, rhetoric and methodology. The implications for these assumptions are depicted in (Table 4) below:

Table 4:   Philosophical Assumptions with Implications for this Study.

Assumptions	Questions	Characteristics	Implications for practice (Example)
Ontological	What is the nature of reality?	Reality is subjective and multiple, as seen by the study participants.	The researcher uses participants 'quotes and themes and provides evidence for their different perspectives.
Epistemological	What is the relationship between the researcher and the subject being researched?	The researcher attempts to lessen the distance between themselves and that which is being researched.	The researcher collaborates, spends time in the field with participants, and becomes an 'insider'.
Axiology	What is the role of values?	The researcher acknowledges that research is value-laden and that biases can occur if care is not taken.	The researcher openly discusses the values which shape the narrative and includes their own interpretation in conjunction with participants' interpretations.
Rhetorical	What is the language of research?	The researcher writes in a literary, informal style using a personal voice and uses qualitative terms and limited definitions.	The researcher uses an engaging style of narrative, which may include the use of the first-person, or a pronoun, and may employ the language of qualitative research.
Methodological	What is the process of research?	The researcher uses inductive logic, studies the topic within its context, and uses an emerging design.	The researcher works with particular (details) before generalisations, and describes in detail the context of the study, and continually revises questions from experiences on the field.

Source: Creswell (2007, p. 17)

5.1.1 Ontological Assumptions

This is concerned with the nature of reality. It raises questions regarding researchers' assumptions about the way the world operates and the commitment held to particular views. Ritchie and Lewis (2006, p.13) and Pascale (2011, pp. 3&4) contend that, the social world has always raised a number of debates in relation to ontology and are concerned with beliefs about what there is to know. In the literature, ontology represents a vision of the world, and a more or less coherent set of assumptions about how the world operates. As a result of its all-embracing character and ambiguous claims, ontology becomes extremely difficult to prove or disprove, at least not in the usual (verification or falsification) sense. Ontological debates are, by definition, "*irresolvable*". The researcher when investigating a phenomenon is viewing the world and the meanings that can be brought out of it; whilst Bruggemann et al. (2004) regard ontology as what is being investigated.

Bruggemann et al. (2004) distinguished between nominalist and realist approaches. They contend that nominalist approaches are associated with a subjective position, which implies that there is no real structure associated with the world. Thus, the use of names as labels and concepts by people to explain reality are nothing but a way of enabling people to understand the world in which we live. Conversely, realist approaches are built on concrete, hard and partly tangible structures. The realist opinion advocates that only one reality exists and the world is independent from the individual and their perception that a person can do little or nothing to change this.

Similarly, according to Bartlett and Burton (2009) ontology regards how we see the world and our place in it. Thus, we may see this as being fixed and clear with social structures to which we all belong within society; or we may see it as being extremely fluid and something that is different for each of us, existing as separate individuals (p.17).

In terms of effectiveness in higher education, do they exist ontologically? My answer is that the topic has a subjective relationship with ontology as effectiveness is a construct that can be defined by the definer (Cameron, 1986). Therefore, this assumption tends towards nominalism ontology.

5.1.2 Epistemological Assumptions

This is a branch of philosophy that studies knowledge. It attempts to answer basic questions that distinguish true knowledge from false knowledge. According to Mason (2002):

'Epistemology is theory of knowledge that concerns the principles, rules by which decision, whether and how social phenomena can be known, and how knowledge can be demonstrated' (p.13).

Epistemology emphasises ways of knowing and learning about the social world and focuses on questions such as: How can we know about reality, and what is the basis of our knowledge? Other researchers (Bartlett and Burton, 2009, Creswell, 2007, Ritchie & Lewis, 2006, Lincoln and Denzin, 2000) affirm that epistemology concerns knowledge inquiry. Therefore, when a researcher is conducting an investigation they are accumulating more knowledge through interactions between the researcher and the phenomenon under study.

According to (Bruggemann et al. 2004, p.14, Kemper, 1990, p.11, Wagner & Okeke, 2009, p.62), epistemology can be perceived in terms of the positivism and anti-positivism debate. Anti-positivism devotees claim that it is better because of its subjective nature contending that only people who are directly involved in research activity should be integrated in the study. Thus, only these people truly understand what is being investigated. Positivism devotees offer an objective point of view and consider knowledge as hard, real and capable of transmission in a tangible form. Therefore, the obligation of positivism researchers tends to explain what happens through searching for regularities and causations of the studied objects. Thus, new knowledge may be made once it is verified or finally rejected.

Bruggemann et al. (2004, p.140) posit that epistemology deals with the question of how the researcher would understand the data and how they would communicate this to their readers. This refers to the nature, origin and limits of human knowledge, and how it is generated with a particular concern for scientific knowledge. Therefore, such an assumption is anti-positivism. As noted by Bartlett and Burton (2009, p.17), having an understanding of how the world exists (ontology), what counts as legitimate knowledge (epistemology) and how we can research into this provides us with the world idea of the research paradigm. I will now consider the paradigm for this study.

5.1.3 Paradigm for the Study

Paradigms constitute a coherent set of ideas and approaches, which are involved with a unique set of values and beliefs and are often presented as polar opposites. A paradigm is the worldview of the researcher. According to Lincoln and Denzin (2000), a paradigm is a basic set of beliefs that guide actions. Paradigms deal with the first or ultimate principles;

and are human constructions. In the same perspective, Patton (2002, p.69) asserts that, a paradigm is a worldview, and a way of thinking and making sense of the complexities of the real world. As such, paradigms are deeply embedded in the socialisation of adherents and practitioners. Paradigms tell us what is important, legitimate, and reasonable. Paradigms are also normative, and tell the practitioner what to do without the necessity of long existential or epistemological consideration.

Thornhill et al. (2007, pp.103-110) provide six paradigms: research philosophy; positivism, realism, interpretivism, objectivism, subjectivism, and pragmatism. According to Lincoln & Denzin, (2000, p.24) the positivists assert that objective accounts of the real world can be given and believe that only those phenomena which are observable can be counted as knowledge, and such knowledge is derived deductively from scientific theories which must be tested empirically. The realists assert that what the senses show us as reality is the truth. The realism paradigm reflects two assumptions. The first is provided by direct realists who believe that only one step is needed to experience the world, whilst the second is provided by the critical realists, who believe that two steps are ideal for experiencing the world. The first step is the context itself and the sensations it conveys; and the second is the mental processing that continues after the sensation meets our senses.

The interpretivists contend that researchers must understand the differences among humans as social actors and recognise the significant roles they play in the lives of human beings. To them, the world is complex, unique and dynamic. The objectivists believe that social entities exist in reality external to social actors. In contrast, the subjectivists believe that social phenomena are carried out through interactions which are a continuous process. The pragmatists are mediators, and they are not committed to any one system of philosophy and reality. To them, there is no justification in the ***"paradigm wars"*** of superiority between qualitative and quantitative approaches. They see both approaches as relevant to research and can be used in the same study.

Similarly, Richie and Lewis (2006, pp11&12) identify three paradigms which include realism, materialism, and idealism. While they agree with the realism context as narrated above, they contend that materialism in terms of economic relations constitutes reality in the world. They view values, beliefs or experiences as "*epiphenomena*" which arise from reality, but do not shape the material world. With regard to idealism, reality is only understandable through the human mind, and socially constructed meanings.

Creswell, (2007, p.20) identifies four paradigms: post-positivism, constructionism, advocacy/participatory, and pragmatism. Post-positivists view inquiry as being logically

related steps and multi-perspectives from participants rather than a single reality. The constructionists are social actors who believe in the interactions between the researcher and the participants; and they tend to understand the world in which they live and work. The advocates/participants' are social reformers who view the world as an action agenda which can bring change to the lives of participants, and the institutions in which they live and work, including the lives of the researchers. Pragmatists are those explained above.

However, in the study of paradigm, the objective-subjective assumptions are the tenets upon which the divide between quantitative and qualitative paradigms is based. While pragmatism aligns with the two, other paradigms have relationships with either assumption. Objectivism, positivism, direct-realism, are related to quantitative paradigms; whilst post-positivism, subjectivism, critical realism, interpretivisim, materialism, idealism, constructionism and advocacy/participatory are related to qualitative paradigms. For purpose of this study, my view of these paradigms is social constructionism as noted by Creswell (2007) which is subsequently considered.

5.1.4. Social Constructionism

In the literature, many notable researchers (Burr, 2003, p.6, Crotty, 1998, p.42, Gergen and Gergen, 2003, p.15) have argued that constructionism opposes the view that knowledge is a direct perception of reality, which implies that within our society, we construct our own different versions of realities. Therefore, nothing as an objective fact within the concept of constructionism exists. Thus, all knowledge is attained through different perspectives and it is in the service of some interests rather than others. They maintain that the world is understood through a process that is not automatically driven by forces of nature, but as a result of active, cooperative enterprise among persons in relationships, offering both historical and cultural perspectives.

According to Arora (2000) organisational effectiveness as a construct cannot be observed directly, pinpointed, counted, or objectively manipulated as it can only be abstractly constructed to give meaning to an ideal. Arora (2000) observed that organisational effectiveness should be seen as an idea, reflective values, and preference of various constituencies rather than an objective reality noting that what a group may prefer as effectiveness may not be in consonance with another group. He notes that over time, preferences knowingly or unknowingly may change among individuals who inevitably make the attachment of effectiveness to goodness or to excellent judgements inherently subjective and value-based which makes a universal definition of organisational effectiveness

impossible as different constituencies have different preferences, values, and evaluation criteria (p.304).

As a researcher, the following characteristics of constructionism to support my decision of paradigms was found in the literature: seeks an understanding of the world in which the researcher and participants work and live; a belief in multiple ideas and views; meanings of experiences being subjective; relying on participants' views of the situation; embracing the inductive development of theory; supporting open-ended questions, and interacting with participants. Arguably, I have my own subjective view about higher education effectiveness as it is socially constructed and I also acknowledge the fact that my own perspectives of the topic could be different to those of my participants because of the existence of multiple realities.

5.1.5 Axiology

According to (Creswell, 2007, Lincoln, Lynham, & Guba, 2011, Mertens, 2010), axiology covers the researcher's action by following the entire research process to determine the credibility of the results. It equally acts as a weapon of judgemental values on the roles of the researchers. This is because all researchers bring values to a study, but qualitative researchers like to make explicit these values.

5.1.6 Rhetoric

According to (Creswell, 2007, Wills, 2008) rhetoric represents the metaphorical language applicable to qualitative research. The language of qualitative research becomes personal, literary, and is based on the definitions that evolve during a study rather than being defined by the researcher.

5.1.7 Methodology

This is concerned with the procedures of how a piece of research is undertaken. The emphasis is on its inductive and emerging nature which is shaped by the researcher's experience in collecting data and analysing the data. Lincoln and Denzin (2000, p.157) state that, methodology focuses on the best means for gaining knowledge about the world. Bruggemann et al. (2004, p.15) distinguish between ideographic and nomothetic views and claim that methodology is a question regarding what methods the researchers uses to collect information, draw conclusions, and build the whole research and investigation process regarding the subject. The view of the ideographic is that one can only understand the social

world by obtaining first-hand knowledge of the subject under investigation and as such it is internal. The nomothetic view emphasises research importance on systematic protocols and techniques focusing on methods based on natural sciences.

As a researcher, my obligation to emphasise the research importance and the strategy used for evaluating the criteria of organisational effectiveness in polytechnics is a basic task which must be achieved. My relationship under the methodology assumption is ideographic. However, in order for any piece of research to be meaningful the researcher must understand which methodology to use and the three assumptions (ontological, epistemology and paradigm) as discussed above which will no doubt influence the selection of the most appropriate methodology and method to use because they are all inter-related. However, it is better to distinguish between methodology and method as some people use them interchangeably.

Mason (2002, pp.30-32) advises that the concept of the methodological strategy should be distinguished from that of the method, even though, the choice of method will form part of the methodology, and the method is a component in a range of different methodological strategies – but it is not a strategy in itself. Crucially, and put most simply, the methodological strategy is the logic which underpins the way in which the research project is designed to answer the research questions, as well as the day-to-day decisions regarding most if not all aspects of the research.

Similarly, Lincoln and Denzin (2000, p.22) assert that a methodological strategy of inquiry comprises a bundle of skills, assumptions and practices that the researcher employs as this moves from the paradigm to the empirical world. The methodological strategy of inquiry places paradigms of interpretation into motion. However, Yin (2003, p.5) cautions, that even though each methodological strategy has its own distinctive characteristics, there are large overlaps among them. The goal is to avoid a *"misfit"* that is when you are planning to use one type of methodological strategy but another is really more advantageous. In the literature, the quantitative and qualitative research methodologies dominate the strategies of enquiries and both have been controversial subjects. I will now distinguish between the two methodologies.

5.2 The Quantitative vs. Qualitative Debate

According to Leedy and Ormond (2001, p101) in general quantitative research is associated with positivist or traditional approaches, while qualitative approaches are associated with non-positivist paradigms While various authors (Gourding, 2002, pp.11-12,

Lincoln and Denzin, 2003, p. 13, 2005, p.8) lay out positive and negative aspects of qualitative versus quantitative methodologies, all agree that they both contribute towards knowledge improvement within research.

According to Gourding (2002, p.11-12), many positivists consider qualitative research as merely exploratory condemning it as unscientific, conjecture, value laden and unsuitable for good science principles. On equal terms, the qualitative researchers view positivists as being pseudo-scientific, extremely rigid, myopic, outdated, and mechanistic who only pursue existing theory testing rather than a consideration for theory development. This controversy looms large in the field of management, consumer behaviour as well as the humanities.

Lincoln and Denzin (2005, p.8) view the condemnation of qualitative research as political which had posed greater challenges within the academic and disciplinary arena. They contend that such resistance is seen as an imposition of an aspect of knowledge over another; while to the positivists, its rejection is against reason and truth. In a comprehensive distinction, Lincoln and Denzin (2003, p.13; 2005, p.10) consider the qualitative in terms of qualities, processes, and meanings that are non-experimental and measure quantitatively the amount, and frequency. Qualitative researchers believe that reality is socially constructed between researchers and the phenomenon studied, and the emerged constraints that build the enquiry. Such researchers consider the importance of the inquiry and tend to answer questions on how meanings are created and effect social experience. In contrast, quantitative research deals with non-processes and on the measurement and analysis of variables, which are causal in relationships.

Charmaz (2006, p.4) considers quantitative assumptions as beliefs consisting of systematic observations, replicable experiments, operational definitions concepts, logical deduced hypotheses, and confirmed evidence, often regarded as the scientific method. These assumptions embrace positivism, the dominant paradigm of enquiry in routine natural science.

However, Lincoln and Denzin (2003) have identified five clear differences between quantitative and qualitative paradigms. The first is the use of positivism and post-positivism; the second is the acceptance of post-modern sensibilities; the third regards how individual views are captured; the fourth deals with the examination of everyday constraints, and the last relates to securing rich descriptions of inquiries (pp.14-16).

Table 5: Distinctions between features of quantitative and qualitative methodologies.

Questions	Quantitative	Qualitative
What is the purpose of research?	To explain and predict To confirm and validate To test the theory	To describe and explain To explore and interpret To build the theory
What is the nature of the research process?	Focused Known variables Establish guidelines Static design Context-free Detailed view	Holistic Unknown variables Flexible guidelines Emergent design Context-bound Personal view
What are the methods of data collection?	Representative Large sample Standardised instruments	Informative Small sample Observation Interviews Documents
What is the form of reasoning used in analysis?	Deductive analysis	Inductive analysis
How are the findings communicated?	Numbers Statistics Aggregated data Formal voice Scientific styles	Words Narratives Individual quotes Personal voice Literary voice

Source: Leedy and Ormond, (2001, p 102)

In a pragmatic manner, Goulding (2002) notes that the superiority debate between the two paradigms is based on misconceptions, misinterpretations, and mistrusts existing between the nature and their philosophies. He contends that both paradigms have their different school of thoughts, methodologies and intellectual capacities noting that the existence of features such as quantification, questionnaires, and statistical analysis are insufficient evidence for sabotaging positivism. Doing so can be likened to lack of whole-hearted understanding and appreciation (p.12).

As a researcher and in my own opinion, this debate of superiority in the literature is a continuum without any end in sight. This is because "***every bird likes its own nest***" and no researcher will accept the superiority of a considered rival paradigm as being superior. However, following the guiding principle of Silverman (2010, p.9) that the research methodology should be chosen based on the specific task at hand, I have chosen a qualitative methodology to explore my study on "*effectiveness in higher education*" with particular reference to polytechnic education in Nigeria.

5.2.1 Qualitative as a Methodology of Enquiry

The strategy for this enquiry is qualitative. According to Lincoln & Denzin (2003), qualitative enquiry among human disciplines possesses a reputable history. They describe qualitative research as a valuable inquiry, which affects numerous disciplines, fields, and subject matters. It is regarded as complex, with different but related terms, concepts and assumptions. In a very precise definition, whereby qualitative research is regarded as a process that recognises the researcher in the world, and changes the world through interrelated activities and material practices which make the world attractive. The world is changed into numerous representations which include; field notes, interview conversations, photographs, recordings, and memos to one-self. In essence, qualitative research is much more concerned about the world through an interpretive and naturalistic approach. Therefore, this reveals that qualitative researchers embark on phenomena that are of natural settings in nature and interpret them according to peoples' meanings (pp.1-5).

Glaser (1992, p.12) contends that qualitative methodology can be used to explore the actions and experiences of people and perspectives which are unknown or which little is known in the world of research outcomes.

Creswell (2007) contends that research assumptions of worldview nature based on theoretical perceptions, are outcomes determined by the meanings individuals or groups give to social or human problems and through the study of research problems inquiry this represents the starting point of every good piece of qualitative research. In the course of researching this problem, a researcher uses an emerging qualitative approach to inquiry, collects data in a natural setting very sensitive to the people and cases under study, and data analysis, which is inductive through patterns and themes development. Inclusions in the final report or presentation are the participants' views, researcher's reflex, the description and interpretation of the problem which is complex in nature, and the call for action of the

literature or signals of the study (p.36). This shows the impact of relationships that exist between the researcher and the participants during data collection.

However, despite the popularity of qualitative research, it has been criticised as being too time consuming and cannot be generalised as a methodology of study. While triangulation can take care of generalisation, the issue of being time consuming depends on the type of method used under qualitative research.

Figure 5: Methodology Overview
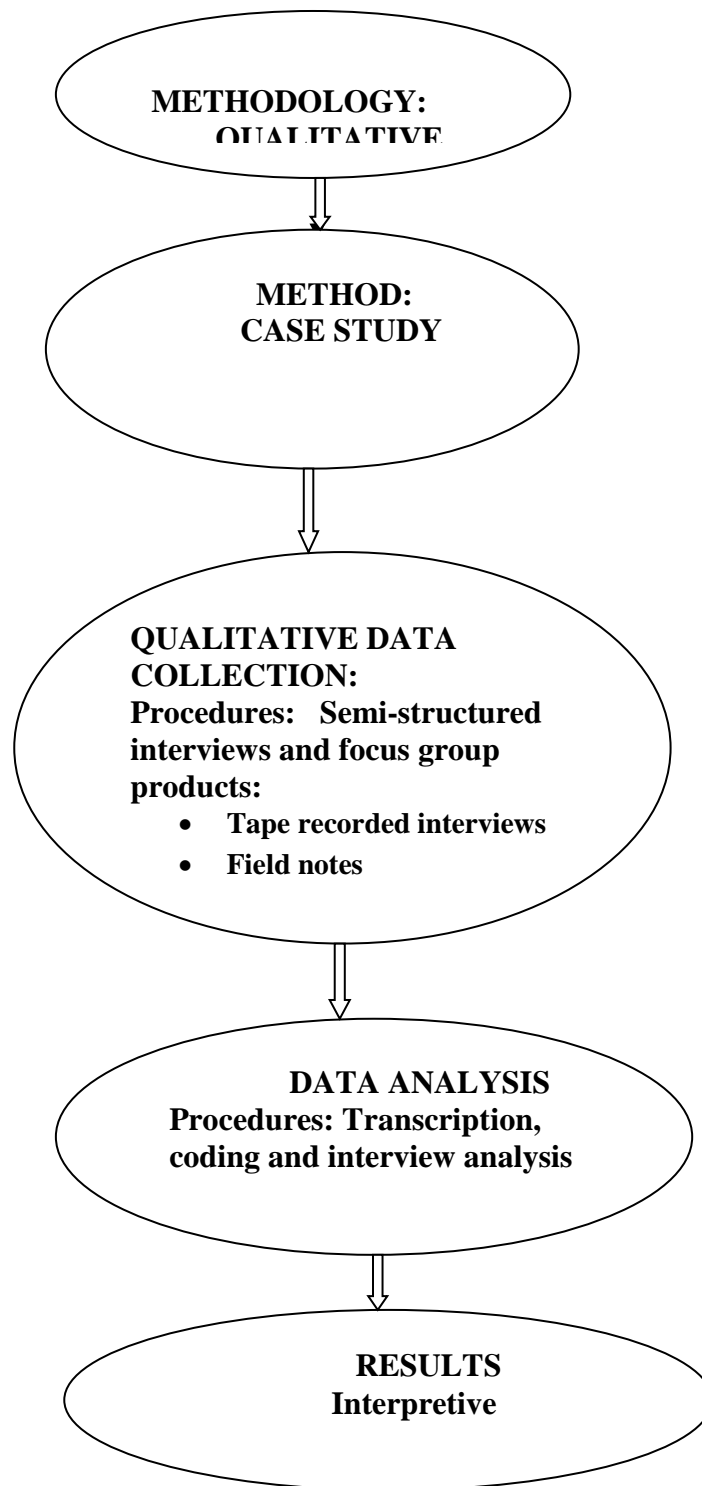
Source: Researcher

5.3 The Research Design

The research design as a logic structure of inquiry matters at the beginning. This avoids the pitfall of weak conclusions being provided by the researcher, and an unconvincing failure to answer the research question. According to Yin (2003, p.20), the research design is the logical sequence which connects the empirical data to a study's initial questions, and ultimately, to its conclusion.

Richie and Lewis suggest that the research design is one which has a clearly defined purpose, in which there is a coherence between the research questions and the methods or approaches proposed which generates data which is valid and reliable (2006, p.47).

However, Patton (2002, p.225) suggests that the research design needs to remain sufficiently open and flexible to permit exploration of whatever the phenomenon under study offers for inquiry, for qualitative designs continue to be emergent even after the commencement of the data collection. However, the degree of flexibility and openness is also a matter of great variation among designs. The next section describes the case study method which has been used for this study.

5.3.1 The Case Study Method

In the literature, there are many ways of conducting qualitative research. I have chosen a case-study method to explore the research in greater depth. The case study method can be extremely productive since it can produce richer data in terms of its meaning and potential insight into the phenomenon under study. Furthermore, in a study of this nature, the use of a case study is not a new concept in higher education research studies.

According to Yin (2003; p.9, 2009, pp.10 & 11), the case study has a distinct advantage when a "*how or why"* question is being asked about a contemporary set of events, over which the investigator has little or no control. Eisenhardt (1989) says that:

> 'Case studies are particularly well suited to new research areas for
> which existing theory seems inadequate' (pp.548 &549).

In his own contribution, Creswell (2007, p.73) says that case study research involves the study of an issue explored through one or more cases within a bounded system (i.e. a setting or a context).

According to Wallace (2010), the case study is ideal when a researcher is seeking an in-depth, detailed empirical data about a phenomenon. Data can be collected to test an

existing theory, to develop a theory, or to obtain a more in-depth understanding of themes emerging from surveys of quantitative research (p.22). No doubt the case study will provide me the opportunity to acquire in-depth knowledge of the polytechnic institutions under investigation as far as organisational effectiveness in higher education is concerned.

5.3.2 Types of Case Studies

However, in designing the case study as a method, Yin (2003, p. 3) and Hesse-Biber & Leavy, (2010, p.10) distinguish between three specific types of case studies: exploratory, descriptive and explanatory. According to Robson (2002; p.29) exploratory case studies, as in this case, are valuable means of determining what is happening, for seeking new insights, for asking questions and assessing phenomena in a new light. This type of case study can be useful for clarifying the understanding of a problem, for being extremely flexible and adaptable to change. According to Robson (2002, p.59) descriptive case studies portray an accurate profile of persons, events or situations. Explanatory case studies establish a causal relationship between variables whereby one study leads to the explanation of the relationship between variables.

Figure 6:   Types of Case Studies
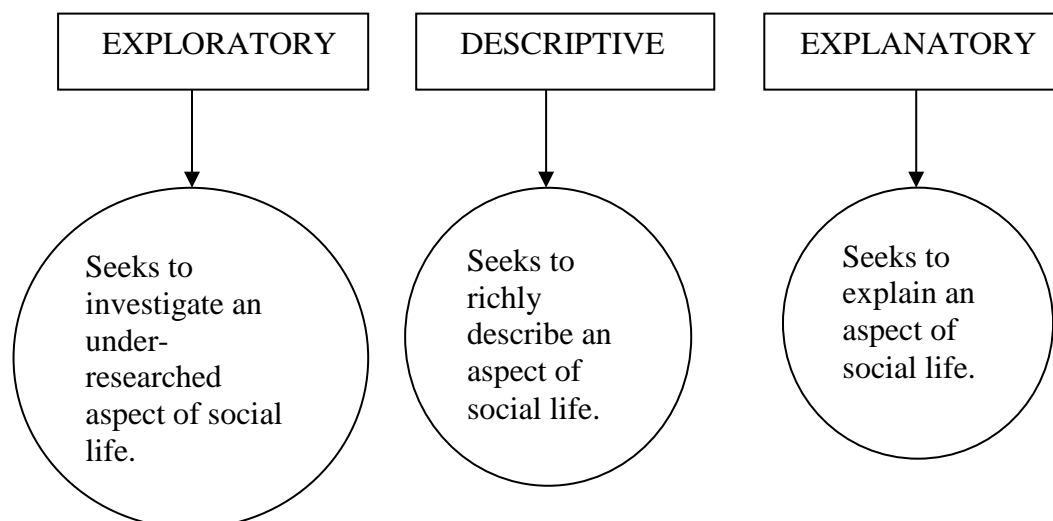
Source: Yin (2003, p. 3), Hesse-Biber & Leavy (2010, p.10).

In a similar study, Stake (2003, pp.136-138) describes case studies as one of the most prominent ways through which a researcher conducts a qualitative enquiry noting that the

case study is a non-methodological choice but also a choice to be studied. He distinguishes between three types of case studies: intrinsic, instrumental and collective. The intrinsic case study is embarked upon when a researcher tries to adequately understand a particular case neither as being representative of other cases or an illustration of particular traits but only due to particular and ordinary interest. In order to get the best from the case study, the researcher considers secondary reasons such as theory or non-theory building, construct or generic understanding to that of intrinsic interest, which represents the conduct of the phenomenon. The instrumental case study enables the researcher to generalise about an issue by making the case study a secondary interest, and a supportive role for understanding something else. The phenomenon is of external interest and is studied in-depth, and is scrutinised with detailed activities. In essence, the case is conducted for understanding other interests which may reflect other cases or not. When utilising an instrumental case study, the researcher pursues different interests which are particular and general in nature.

Stake (2003) notes that the only factor which distinguishes both the intrinsic and instrumental is what he terms the **"*zone of combined purpose*".** The collective case study combines several cases whereby each case may or may not be known to possess some common characteristics which can be similar or dissimilar. Such cases are chosen to enable researchers to understand a better and theoretical understanding of a different collection of cases. In terms of this research on organisational effectiveness in higher education with reference to polytechnic education in Nigeria, being the first of its kind this requires an in-depth study of the topic and the use of collective case studies in addition to its exploratory nature. I do hope these reasons will be sufficient for justifying the chosen method.

5.3.3 Multiple Case Studies: a Better Choice

This research involves a multiple case study for investigating three polytechnics in Nigeria. The institutions differ in many ways. Notably, whilst two of the institutions can be classified as public institutions under the federal and state governments' ownership structures, the third belongs to a private ownership structure. The purpose of the research is to explore how the polytechnics' institutions compare in terms of their effectiveness criteria in achieving their missions within the higher education system.

It is my opinion that the results from these multiple case studies will be more compelling and robust. (Yin, 2003, Creswell, 2007) support this assertion.

Yin (2003, p.53) and Klenke (2008, p. 65) provides justifications regarding why multiple cases should be used in case studies. Firstly, the possibility of direct replication and

analytical conclusions independently arising from multiple case studies will be more powerful than those coming from a single case alone. Secondly, the contexts of multiple case studies are likely to differ to some extent. Where a common conclusion from all cases is arrived at, they will have no doubt immeasurably expanded the external generalisability of the research findings, again compared to those from a single case alone. Thirdly, multiple case studies have contrasting situations; and no direct replication is sought. In this design, if the subsequent findings support the hypothesised contrast, the results represent a strong start toward theoretical replication-again vastly strengthening the external findings compared to those from a single-case study.

Creswell (2007, p.73) opines that in a collective or multiple case study, one issue or concern is selected but the inquirer selects multiple case studies to illustrate the issue. In the same perspective, Stake (1995; pp. 3-4) refers to multiple case studies as collective case studies, when a researcher jointly studies a number of cases in order to understand a phenomenon, population, or general condition. This is instrumental in a study which is extended to several cases.

Buttressing the support for multiple case studies, Bleijenberg (2010, p.62); Campbell (2010, p.174) agree that they offer the best abilities for testing theories or hypotheses because they afford researchers the ability to compare variations between cases and that multiple case design has gained much support in academic debate. This kind of case study still provides for a *"thick description"* which is found in single case studies. The major goal of comparative case studies is identifying differences, similarities, or patterns across the cases. The results may be useful to the discovery or confirmation of an existing theory. In the literature, there is no doubt that multiple case studies do provide exemplary outcomes in a research of this nature.

5.3.4 The Advantages and Disadvantages of Case Studies

Neale, Thapa, and Boyce, (2006) and Cohen, Manion, and Morrison, (2007, p.256) assert that the major advantages of case studies are that they provide much more detailed information when compared with other methods, such as surveys.

Case studies also encourage triangulation data collection methods (interviews, document reviews and observation, and the results are greater understood by a wider audience including non-academics. In addition, they are immediately intelligible, and speak for themselves; provide insight into other similar situations through assistance in the interpretation of other similar cases; they are very strong on reality; they can be undertaken by the researcher

without the need for a research team, and they can embrace and build unanticipated events and uncontrolled variables. However, case studies suffer from the following drawbacks as described below:

They can be lengthy: Case studies provide detailed information in a narrative form and a reader's interest may be lost if they are too lengthy. In essence care should be taken to provide rich information in a digestible manner.

The concern that case studies may lack rigor: Case studies have been viewed in the evaluation and research fields as being less rigorous than surveys or other methods as qualitative research in general is still considered by some to be unscientific and in many cases, case study researchers have not been systematic in their data collection or have allowed bias in their findings.

They are not generalisable: A common complaint about case studies is that it is often difficult to generalise from one case to another. However, case studies have also been prone to overgeneralisations, which come from selecting a few examples and assuming without evidence that they are typical or representative of the population. Yin (2003) a prominent researcher, advises case study analysts to generalise findings to theories, as a scientist generalises from experimental results to theories (p.4).

Figure 7:   Broad Research Design Overview

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│                                          │
│           RESEARCH QUESTIONS             │
│                                          │
└─────────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────────┐
│  How do the polytechnic higher education │
│  institutions compare in terms of        │
│  perceived effectiveness in achieving    │
│  their missions within the higher        │
│  education system?                       │
│                                          │
│  What goals can be derived from the      │
│  participants' interviews that relate to │
│  perceived organisational effectiveness? │
└─────────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────────┐
│           RESEARCH DESIGN                │
│           Multiple cases                 │
└─────────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────────┐
│           DATA COLLECTION                │
└─────────────────────────────────────────┘
        │            │            │
        ▼            ▼            ▼
  ┌──────────┐ ┌──────────┐ ┌──────────┐
  │Interviews│ │Focus     │ │Documents │
  │          │ │group     │ │          │
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│ DISCUSSION, CONCLUSION AND               │
│ RECOMMENDATIONS                          │
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Source: Researcher

5.3.5 Research Questions

According to Punch (2005) good research questions must be clear and unambiguous in order for them to be understood. They should be specific for easy connection to the data indicators and answerable for proper identification of the required data and for collection. They should also be interconnected in a meaningful way, substantially relevant to invoke interest and worthwhile for attracting investment of the research efforts (p.46). I hope these underlying questions are able to satisfy these conditions.

1. **How do the polytechnic higher education institutions compare in terms of perceived effectiveness in achieving their missions within the higher education system?**
2. **What goals can be derived from the participants' interviews that relate to perceived organisational effectiveness?**

5.4 Sampling Selection

The current study made use of purposive and snowball samplings. The concept of purposeful sampling is used in qualitative research. Here, specific individuals and sites were selected for this study because they could purposefully inform an undertaking of the research problem, answer the research questions, and meet the objectives, which are the central phenomena of the study (Creswell, 2007, p.125, Thornhill et al. 2007, p.230). The majority of authors (Cohen, et al., 2007; Creswell, 2007; Richie & Lewis, 2006; Lincoln and Denzin, 2000; Mason, 2002; Merriam, 2002; Patton, 2002; Stake, 1995; Thornhill et al., 2007) agree that the sampling selection for case study research is purposive with various examples such as convenience and snowball samplings.

In consideration of the sample size, Cohen et al. (2011) maintains that in qualitative research, there are no definite rules as size is informed by the fitness for purpose (p.161). Furthermore, Fletcher and Plakoyiannaki (2010) note that the sampling size depends on how rich and complex the within-case size is. They argue that:

> There is breadth-depth trade-off. With too many case studies, the data become thinner, and depth may be lost. Multiple case studies can require extensive resources and time; researching a great number of cases with the same resources may mean more breadth but a loss of depth (p.838).

According to (Cohen et al. 2007, p.100, Onwuegbuzie & Collins, 2007, p.281), sampling in the research process represents a critical step because it enables the researcher to present quality inferences from the research findings. Furthermore, it is extremely important for the researcher to choose the number of participants, i.e. the sample size and methods of selection, i.e. the sample scheme no matter the type of research. For example, Yin (2003; p.51) contends that, when using a multiple-case design, a further question that will be encountered is related to the number of cases deemed necessary or sufficient for the study. However, because a sampling logic should not be used, the typical criteria regarding sample size is irrelevant.

In this study, I made use of snowball sampling at the state polytechnic. According to Hatch (2000, p.98) snowball samples are created when an informant identifies another respondent as someone who will be good for interview. This sampling method was used because of my amazement with the numbers associated with the part-time programme centres called annexes which the state polytechnic was running for internal revenues generation, and further enquiry revealed that the revolution was the handiwork of the former rector of the institution. I asked if he could be contacted and the polytechnic public relations officer (PRO) called him the next day and introduced me to him on the phone through which an interview arrangement was made which subsequently took place in his house. In case study research sampling does not follow a random selection.

5.4.1 Selection of Institutions

The three case studies were selected with the consideration of purposive sampling regarding the structure of higher education in Nigeria; and federal, state and private ownership respectively. I also carefully considered the characteristics of these cases before handpicking them. The federal polytechnic is one of the oldest polytechnics in Nigeria and attains a great level of reputation and serves as role model not only within the polytechnic arena but within the Nigerian higher education system. The state polytechnic is one of the first generations of state technological institutions in the country, whilst the private polytechnic is the most sought after private polytechnic in Nigeria.

In addition, the following criteria were considered:

1. Diversity among stakeholders on campus because many ethnic groups in Nigeria currently attend polytechnics.

2. The location of the polytechnics is not only situated in the urban cities but they also have other campuses located along express roads across from the cities.

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3. Convenience as the polytechnics is located nearer to motor-parks, markets and places of attraction within their own vicinities.

4. The discipline range as the polytechnics offer different types of courses and are accredited by the necessary organisations.

5. Data collection and financial resources needed were vital factors because my institution is in United Kingdom while the data collection took place in Nigeria.

6. The three institutions represent leadership and innovation within higher education institutions in Nigeria.

Patton (2002; p.230) and Bleijenberg (2010, p.61) emphasise that, the logic and power of purposeful sampling lies in the selection of information-rich cases for in-depth study. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus, the term purposeful sampling. Studying information-rich cases yields insight and in-depth understanding rather than empirical generalisations. Purposeful sampling focuses on selecting information-rich cases whose study will illuminate the question under study.

Polytechnic institutions no doubt satisfy these conditions as literature is scarce on this issue. However, the disadvantage of purposive sampling is that such sampling cannot be used as a generalisation for the entire population.

Table 6: Participation Institutions and Respondents

Institutions	Top management	Lecturers	Students	Non-academic staff	Former Rector	Total
Federal	6	10	4	2	nil	22
State	3	14	2	2	1	22
Private	5	03	nil	nil	nil	08
Total	14	27	06	04	1	52

Source: Researcher.

Note: From the table, the private polytechnic had the lowest number of interviewees. This was because the polytechnic had the smallest number of staff, students and courses compared to the public polytechnics. The polytechnic was established just a few years ago.

5.4.2 Access to Institutions

According to Creswell (2007; pp.138-9), gaining access to organisations, sites and individuals for study have its own challenges. Convincing individuals to participate in the study, building trust and credibility at the field site, and getting people from a site to respond are all important access challenges.

I am a lecturer at one of the federal polytechnics in Nigeria. As a member of the Association of the Senior Staff Union of Polytechnics (ASUP), I use telephone and letter contacts to secure access to the institutions which use some of my colleagues as informants. My experience as a major player in the polytechnic educational system in Nigeria has equally afforded me a precise decision on which polytechnics to investigate. Initially, eight polytechnics were approached but only three were finally chosen. A written request which served as letter of introduction **(Appendix 1)** from my university to the institutions to participate in the investigation was sent to each polytechnic.

5.4.3 Selection of Respondents

As noted in the introductory chapter that there is no precedence for the effectiveness of study on polytechnic higher education institutions in Nigeria, so this study does not use any priori standards in generating the sample but rather is based on criteria similar to those used by Cameron (1978, p.611) termed internal dominant coalitions. The internal dominant coalitions are the representatives of the major subunits or interest groups within the polytechnics who influence the direction and the functioning of the institutions.

In this study, the target population were grouped into four; the top management, lecturers, students, and the administrative staff of the polytechnics as depicted in Table (6) above.

The top management: The categories for the top-management are the rectors, the president, the deputy rector(s), the registrars, the bursars, the chief librarians and the chief medical directors of the institutions except the registrar of the state polytechnic who was not available at the time of the interviews and the private polytechnic chief librarian because such a position was yet to be created. The top-management were interviewed because they represented the central management team in charge of affairs and dealt with the daily operations of their various institutions. Besides, they possessed overview of the organisation and as such could provide useful information, which could shape the overall analysis of this study. Among the interviewees was a former rector of a state polytechnic whose knowledge, experience, perceptions, and participation in this research no doubt added more credibility to the study, and provided a greater robustness to various audiences interested in this research.

The lecturers: The categories of lecturers interviewed were chief lecturers, principal lecturers, senior lecturers, lecturers one, two, three and instructors and were purposely selected; but considerations and priorities were given to those who were the heads of units and those who had occupied those units previously. These lecturers represented the knowledge base of the institutions and their quality in the rendition of their services revealed the image of the institutions. They represented the heart of the institutions and always were the cynosure of all eyes in society. Their participation was of immense importance to the research.

The students: The categories of students who were interviewed were comprised of the executives of the Students' Union Government (SUG) at the public polytechnics. The absence of Students' Union Government (SUG) in the private polytechnic led to the undertaking of the focus group. Two national diploma students and four higher national diploma students were interviewed based on campus human relations, physical infrastructures and equipment, and information technology criteria, to express their assessments and the challenges confronting them as there is no institution that can survive without students.

The administrative (non-academic) staff: The categories interviewed were heads of units and the former heads of units. They were considered to be extremely important in the implementation of policies within the institutions as they have occupied various positions of interest to this study.

According to Goodman and Pennings (1977) using the internal dominant coalitions as participants encourage the collection of effective data (p.152). According to Thompson (1967, p.130), dominant coalition members have less college wide information in large diverse institutions than smaller institutions because of the size and autonomy of the departments and programmes. He contends that the dominant coalition as representatives in the internal organisational negotiations become more exposed to a greater amount of information as they function in their roles, and he also argues that wider information would be at their disposal when the dominant coalition is smaller. Porter et al. (1985, p.263) assert that the dominant coalition bestows greater power, control of sanctions, information and authority on more highly placed members. In this study, I viewed the dominant coalition members as being a knowledgeable and reliable source about each of the institutions and units under investigation and considered them as major users of information regarding institutional effectiveness (p.612).

5.4.4 Ethical Considerations

According to Wallace (2010, pp.22-24), case study research is highly associated with the concepts of anonymity and confidentiality. While he describes anonymity as a process whereby the identity of both the participants and sites are being protected, confidentiality is concerned with how information obtained during the research study should be safeguarded and confidence assured. Such information could be the interviews which could be oral, written or both and documents. However, Wallace (2010) points out that the concepts of anonymity and confidentiality can create ethical and methodological problems for the researcher at various stages of the investigation.

Regarding the ethical issue, the loss of anonymity by a participant increases the validity of the qualitative method as a research strategy most especially as it concerns the use of interviews and observations and such a loss can cause untold embarrassment, self-esteem, and eventually the loss of employment to the participant. Furthermore, loss of anonymity can equally place the public reputation of the research site in jeopardy or the disclosure of trade secrets.

Regarding the methodological issue, Wallace (2010) points out that the removal and suppression of identity and confidential information can equally lead to the removal of contextual information which may be of valuable importance to the researcher. The task being faced by the researcher therefore is the ability to present research findings whilst at the same time ensuring that the anonymity and confidentiality of information are preserved.

Lincoln and Denzin (2000, p.447) observe that case studies often deal with matters of public interest but for which there is neither the public nor scholarly right to know. Qualitative researchers are guests in the private spaces of the world; and their manners must be good and their code of ethics strict. Qualitative researchers encounter many issues during data collection. One of the foremost issues concerns confidentiality; which is involves absolute trust. Therefore, the obligation on the researcher is to protect the anonymity of the informants. As a researcher, I needed to balance the value of publishing the research findings against compromising the anonymity of participants and information provided with confidence.

Similarly, de Roche and de Roche (2010) describe research ethics as moral standards for research practices involving human beings. The cultural assumption is that researchers must "*do the right thing*" in the pursuit of any research for their fellow human beings. They maintain that the issue of ethics is no longer left in the hands of the researcher as a guarantee to act in the best interests of the participants as most countries and higher education institutions are governed by institutionalised document codes, managed by authoritative

agencies or ethics committees. They identify seven basic rules governing research ethics as follows: not harming participants; maintaining their privacy; bringing about research benefits; informing them about the research; involving them voluntarily; ensuring good quality research, and being honest with the data and its analysis (p.337). All of these were ensured in for the validity of this research.

Another issue central to the question of ethics in this study is the fact that I am a lecturer at one of the polytechnics in Nigeria. Even though my institution was not part of the cases being investigated, I was conscious of my position and as such guided against any bias. I therefore, took the following precautions in order to preserve the validity of the research:

- A commitment to reflect the truth regarding the whole research irrespective of who was affected.
- The use of validation, reliability, and quality judgement methods before inclusion in the research.

5.4.5 Informed Consent

Klenke (2008, p.50) asserts that one of the most important ethical issues which a qualitative researcher must adhere to are, informed consent, voluntary participation, confidentiality, harm protection, and well-being of the participants' maintenance. He maintains that such informed consent must be obtained from all individuals capable of such consent. In very precise statements regarding the requirements for all research, the British Education Research Association (BERA) (2011) describes voluntary informed consent as:

> The conditions in which the participants understand and agree to their participation without any duress, prior to the research getting underway. Researchers must take necessary steps to ensure that all participants in the research understand the process in which they are to be engaged, including why their participation is necessary, how it will be used, and how and to whom it will be reported (p.5).

For the purpose of this study, an informed consent letter **(Appendix 2)** was designed. A copy was given to each participant who was interviewed for them to read and sign. The consent letter revealed the purpose of the research and a declaration of confidentiality. As an obligation, I explained the details of the research and informed them that the word consent

provided them the opportunity to take part voluntarily in the research with the right to withdraw before the end of the research.

5.5 Data Collection Methods for the Study

According to Creswell (2007; p.117) data collection methods involve a series of interrelated activities aimed at gathering beneficial information to answer emergent research questions. Triangulation represents the heart of data collection for this study and is described in-depth below.

5.5.1 Triangulation

Most researchers (Creswell, 2007; Denzin, 1978; Stake, 1995; Yin, 2003) agree that, case study methods of data collection are triangulatory in nature. Triangulation involves the use of multiple types of data. Similarly, Denzin (1978, p.28) asserts that the logic of triangulation is based on the premise that:

'No single method ever adequately solves the problem of rival causal factors' (p.28).

Because each method reveals different aspects of empirical reality, multiple methods of observation must be employed. This is termed triangulation. This leads to a final methodological rule; that multiple methods should be used in investigation.

In agreement with this assertion, Creswell (2007; p.75) claims that, the data collection in case study research is typically extensive drawing on multiple sources of information. From their own assertion, Glasser and Strauss (1967, p.65) note that no single type of data can be sufficient for a category or technique under sampling selection as different types of data enables the researcher to have diversity in the views from which a phenomenon can be understood. These different views are termed a *"slice of data"* which is synonymous to triangulation. Data for this study were collected using three techniques comprised of interviews, a focus group and documents.

5.5.1.1 Interviews

According to Charmaz (2006), a qualitative research requires intensive interviewing, which can be used to support other methods such as observations, surveys and the accounts of research participants. This method enabled me to have more direct control over the construction of the data than other methods and because it is essential in qualitative methodology that I must control both the data and analysis, it afforded me a good opportunity

to exhibit analytical control over my data. Furthermore, Charmaz (2006) and Barlow (2010, pp. 495-496) note that interviews provide an open-ended, in-depth exploration of a certain phenomenon of which the interviewee has considerable experience and as such interviews can probe this perception of the subjective world.

5.5.1.2 Types of Interview

According to King and Horrocks (2010, pp.2&3) interviewing is the most common and popular method of data collection under qualitative research with great advantages to the researchers. They identified four types of interviews: investigative journalistic interviews, an interrogative and confrontational style of interviewing; celebrity interviews, and finally, the qualitative research interview which displays characteristics such as open-ended, non-leading questions, focuses on personal experience more than general belief and opinions, and seeks to build rapport with the respondents. This final type of interview was extremely crucial to this study.

In a related piece of research, (Yin, 2010, pp.134&135, Scott and Morrison, 2006, pp.133-135) distinguished between structured and qualitative interviews. Structured interviews carefully script the interaction between the interviewer and the participants; the questions to be asked must be listed in a formal questionnaire; the researcher elicits responses from the participants; the behaviour and demeanour of the researcher must be consistent when each participant is being interviewed and they involve a survey related, representative sample which is defined as being precise as possible, and appropriate statistical tests are used to test the link between the study findings and the sampled larger population. In contrast, with qualitative interviews interaction between the interviewer and the participants is not strictly scripted; no questionnaire is needed for the complete list of questions, a mental framework of the study questions is needed, the context and setting of the interview decides the specific nature of verbalised questions to ask each participant, no uniform behaviour or demeanour is needed for every interview, a conversational mode is adopted, the outcome is an individualised social relationship, open-ended questions are used, and participants are allowed to use their own words in the discussion of the topic. According to (Merriam, 2009, p.89, Punch, 2005, p.172), unstructured interview is used when the researcher does not know enough about a phenomenon to ask relevant questions and does not impose any priori categorisation which might limit the field of enquiry when complex behaviours of people are to be understood.

Patton (2002) refers to semi-structured interviews as "*the general interview guide approach*" and made justifications for their use. The interview guide provides topics or subject areas within which the interviewer is free to explore, probe, and ask questions that will elucidate and illuminate that particular subject. Thus, the interviewer remains free to build a conversation within a particular subject area, to word questions spontaneously, and to establish a conversational style but with a focus on a particular subject that has been predetermined. It ensures that the interviewer/evaluator has carefully decided how best to use the limited time available in an interview situation (p. 343).

Barlow (2010, pp. 495-496) describes interviews as a purpose and a direction through which conversations are widely used as a method for data collection. He regards semi-structured interviews as a continuous process, which occupies the middle position between structured and unstructured interviews. The method provides answers to already conceived questions or topic areas, which emerge as the interviews progress rather than being formulated in advance. To him, semi-structured interviews become relevant when the goal of the researcher is to compare the responses of the participants whilst at the same time acquiring knowledge from their relevant experiences. Such interviews are compatible with larger phenomena of which the researcher has basic knowledge but wants to understand the subject in-depth. In view of these facts, I considered the semi-structured interview as a good choice for this study as it would enable me compare between the cases and the interviewees, and explore their words, phrases and meanings which the respondents would associate with the construct effectiveness in higher education.

5.5.1.3 Interviews: semi-structured

This study was a United-Kingdom based undertaking but the data collection took place in Nigeria between 2009 and 2010. The major data for this study involved the use of semi-structured interviews. As an exploratory research, I found semi-structured interviews extremely helpful for determining what was happening within the polytechnic institutions under investigation. The topic was equally very sensitive and such interviews provided me the opportunity to ensure that the same basic lines of enquiry were pursued with each person interviewed. Before conducting the interviews, I ensured that the interviewees had been contacted before travelling to Nigeria.

The first step of contact involved letters of introduction written by my former supervisor on behalf of the university. I later followed these up through telephone calls and at the end of

the contacts three polytechnics were chosen as cases to reflect the polytechnic structure of federal, state, and private sectors respectively in Nigeria.

5.5.1.4 The Interview Schedule

As an interpretive researcher, I designed the interview schedule in order to obtain from the respondents descriptions and explanations that best provided information about their lived experiences. The interview commenced by introducing myself as a PhD research student from the University of Southampton, in the United Kingdom. I explained the research topic, organisational effectiveness in higher education as it related to polytechnic higher education institutions, and made them understand the importance of the polytechnic higher education segment to a growing economy like Nigeria.

I explained to the respondents the areas to be addressed during the interview, the interview format, the terms of confidentiality and anonymity for each participant, and the likely duration of the interview. I equally sought their permission to tape-record the details of the interviews. I had brought a tape recorder with new batteries and tested it to ensure it was working before the commencement of the interviews. This opening session enabled me to interact with the participants in a relaxed and informal manner. Before the proper interview started, I asked if any of the participants' has any questions that they wanted to ask.

In order to motivate the respondents, I started with background questions in order to learn more about their experiences. Due to the informal environment, I was able to develop rapport with the participants and I used follow-up and probing questions based on their responses to pre-constructed questions. Throughout the interviews sessions, I found these open-ended questions extremely fascinating because I was able to change questions based on the participants' responses to previous questions. In addition, the nature of open-ended questions enabled the participants to fully express their views in as much detail as they wanted while I ensured that the time duration set for each interview was met.

Some of the interview questions included the following:

- How can you describe the staff training and development policy of the polytechnic?
- How is the polytechnic funded?
- Does the polytechnic generate additional revenue besides government subventions?

- How is internal resource allocation managed in the polytechnic?

- How effective is the policy accountability of the institution?

- How do you perceive the relationship among campus stakeholders in the polytechnic?

- Can you explain the accreditation process of the polytechnic?

- How can you explain the remuneration policy of the institution?

- What are the problems militating against the achievement of polytechnic goals in Nigeria?

This final question enabled respondents to express their expectations and what their experiences were within their respective institutions.

Most of the interviews took place in the offices of the respondents to avoid distractions except for those which took place in the lecture rooms and the Students' Union secretariat within the campuses. Moreover, the interviews of the former rector of a state polytechnic, the president of the private polytechnic, and the current deputy rector of the state polytechnic took place in their houses. All the interviews utilised a broad meaningful set of topic headings for guidance whilst ensuring that the participants led the discussions. All the interviews lasted between one to one and half hours per interview and were tape-recorded with permission from the participants.

At the end of the interviews, the issues which were discussed were summarised and participants were informed to communicate with the researcher through email if necessary. They were informed that the supervisors of the researcher could also be contacted through email on the informed consent form. It was agreed that a copy of the thesis would be made available to each of the participating institutions. The participants were valued for their contribution and thereafter the interviews were transcribed.

5.5.1.5 Focus groups

Focus groups were another data collection method, which was utilised in this study. As noted by Kelly (2003, p.50), the major objective of focus group interviews is to capture through group interaction and exchange the ideas and attitudes of participants as the interview progresses. The difference between focus groups and one-to-one interviews is that participants of the former have the opportunity to clarify and modify their ideas and challenge each other as focus groups often result in disagreements and cannot be seen as mere ordinary discussions between the interviewer and the participants.

5.5.1.6 Why is focus group suitable?

At the private polytechnic, the institutional culture does not permit the existence of a Students Union Government (SUG) except at the departmental level. Thus, I was informed that the Association of Mass Communication Students (AMCOSS) represented a formidable students' voice. Therefore, I decided to undertake a focus group interview with the executives of the association. Six participants took part in the focus group interview. This enabled the researcher to glean divergent views and feelings that the students had about their institution as a private polytechnic. The participants were notified in advance and the interviews started with an introduction. I explained what prompted the need for the interview whilst the president introduced the participants to me. Letters of consent were given to each of them to read and sign. According to Krueger & Casey (2000), focus groups are not simply about getting a bunch of people together to talk, but are special groups in terms of their purpose, size, composition and procedures. Their purpose is to listen and gather information. They provide a better means for understanding how people feel or think about an issue or service (p.4). However, these students provide reasonable justification in their expressions, their feelings, and their encountered problems as students of a private polytechnic. The interviews lasted for approximately one hour and forty minutes.

5.5.1.7 Documents

Documents and archival records were collected as secondary data to answer the research questions, some of which included historical data about the institutions, organisational structures and archival records including annual budget figures, mission and vision statements of the institutions, functions of the principal officers of the institutions, staff and students' handbooks, letters, written report of events, speeches, institutional publications, newspapers, and other articles that appeared in the mass media for adequate knowledge gathering.

As noted by Raptis (2010), documentation refers to numerous written, audio and visual artefacts that exist within natural, non-laboratory contexts before a research study is initiated. Documentation has a traditional relationship with the historians, who collect documents as the main source of data next to oral historical data. She maintains that qualitative researchers make use of documents where direct observation is not feasible or is used to substitute it. The summary of data collected is depicted on Table (7) below:

Table 7: Summaries of Data Methods Collected

Names of Institutions	Interviews	Documents	Focus Groups Interviews
Federal polytechnic	Yes	Yes	No
State polytechnic	Yes	Yes	No
Private polytechnic	Yes	Yes	Yes

Source: Researcher.

5.6 Validity and Reliability

According to Merriam (1995) all kinds of research require rigor in order to ensure that findings can be trusted. Therefore, questions commonly posed to qualitative researchers as primary instruments of data and analysis reflect concerns pertaining to the validity and reliability of the research findings (pp. 51&52). Morse et al. (2002, p.14) and Cohen, Mannion, and Morrison (2007, pp.133&134) maintain that invalid research becomes useless fiction, and loses its utility; and hence an important key for effective research is reliability and validity.

The contention in the literature is that the concepts of validity and reliability are fundamental concerns which have their roots in positivism and can only be applied to quantitative research. However, most researchers (Bryman and Bell, 2007, Daymon and Holloway, 2011, Golafshani, 2003, Klenke, 2008, Mays and Pope, 1995, Rubin and Babbie, 2011, Riege, 2003, pp. 81-83, Shenton, 2004, pp.64-72) maintain that there are many verification strategies through which qualitative researchers can address validity and reliability in their studies.

According to (Bryman and Bell, 2007, p.43, Lincoln and Guba, 1985, Riege, 2003, pp. 81-83, Shenton, 2003, pp.64-72) the four verification strategies via which validity and reliability can be established in qualitative research are: confirmability, credibility, transferability, and dependability. Confirmability assesses the logical and unprejudiced steps through which the data have been interpreted, thus, bringing out the majority of conclusions

therein. This strategy is closely related to construct validity and is concerned with questions such as: whether the methods used have been described deeply; whether there is complete and backstage information; and whether reanalysis from retained data can be done. Credibility involves the approval of research findings by the participants or peers as there are multiple ways of interpreting realities. In addition, it confirms whether the enquiry has been carried out in an extremely credible manner; and answers questions such as: whether the descriptions have been rich, thick, and meaningful; whether the findings have been internally coherent, and the concepts systematically related. The strategy is regarded as parallel to internal validity.

Transferability is concerned with the achievement of analytical generalisations through similar or different findings of a phenomenon among similar or different respondents or organisations. The strategy answers questions such as: whether the findings were achieved through thick and rich descriptions which would encourage the transfer of knowledge appropriate to their own settings, and whether findings are congruent to or confirmatory of an existing theory. Transferability parallels the concept of external validity.

Dependability assesses the process of inquiry in terms of stability and consistency. The strategy answers questions regarding whether there is congruence between the research questions and the research design and if the duty of reasonable care has been taken into consideration. This strategy is associated with the reliability of the quantitative research.

Morse et al. (2002) identified five verification strategies: methodological coherence which provided a congruence between the research question and the components of the research method; an appropriate sample which showed that the participants had adequate knowledge of the research topic; data collection and analysis which revealed the interaction between what was known and what one needed to know; theoretical thinking which provided the basis for a confirmation of ideas from emerging data with already collected data; and theory development as deliberation between micro-perspective data, and macro-theoretical understandings (p.17).

Moreover, reliability has been subjected to criticism. According to (Merriam 2002, pp.28&29, Daymon and Holloway, 2011, pp.78&79) reliability is problematic in social sciences due to the instability of human behaviours, and human experiences cannot be said to be more reliable than others. In addition there may be inconsistencies in research results due to different interpretations. Therefore, what is expected of researchers is consistency and dependability with the data collected, whilst the use of an audit trail can be used to reduce reliability problems by describing how data has been collected, how categories have been

derived, and what significant roles decisions have played throughout the process of the enquiry (pp.28&29).

Sandelowski (1993) contends that the problem being faced by researchers engaged in member-checking is determining the most appropriate time to initiate a formal member for the checking process and what types of data to present to respondents' to check (p.6). The issue of member-checking is no doubt a difficult task to achieve in research but researchers consider it an ideal process.

Table 8: Strategies Used to Promote Qualitative Research Validity and Reliability

Validity and Reliability Strategies	Description
Researcher as detective	A metaphor characterising the qualitative researcher as they search for evidence about causes and effects. The researcher develops an understanding of the data through careful consideration of potential causes and effects and by systematically eliminating rival explanations or hypotheses until the final case is made beyond reasonable doubt. I utilised the strategies listed here.
Extended fieldwork	I collected data pertaining to the study over an extended period of time.
Low inference descriptors	The use of description was phrased very close to the participants' accounts and researchers' field notes. Verbatim (i.e. direct quotations) was used as a commonly type of low inference descriptor.
Triangulation	Cross-checking information and conclusions through the use of multiple procedures of sources. When the different procedures or sources are in agreement, corroboration is reached.
Data triangulation	The use of interviews, focus study and documents as multiple data sources to understand a phenomenon.
Theoretical Framework	I made use of the Competing Values Framework (CVF) which reflected the research questions, the literature review, the data collection, and the data analysis.
Reliability	I made use of the audit-trail through a description of how the data had been collected, categories derived, and how decisions had been made throughout the research process.
Participant Debriefing	In compliance with the British Education Research Association (BERA), I promised that a copy of the thesis would be made available to each institution on completion.

Participant feedback	The feedback and discussions of the researcher's interpretations and conclusions with the actual participants and for verification and insights.
Peer review	Discussions of the researcher's interpretations and conclusions with two people. This included my brother who was a disinterested peer. He was very sceptical and played the devil's advocate challenging the researcher to provide solid evidence for any interpretations and conclusions. Discussions with the peer, a senior colleague who was familiar with the research also helped to provide useful challenges and insights.
Negative case sampling	Locating and examining cases that disconfirm the researchers' expectations and tentative explanation.
Reflexivity	This involves self-awareness and critical self-reflection by the researcher on his or her potential biases and predisposition as these may affect the research process and conclusions.
Pattern matching	Predicting a series of results that form a pattern and then determining the degree to which the actual results fit the predicted pattern.

Source: Researcher (Adapted from Johnson, 1997, p.283).

In the present study, several verification strategies were used for establishing validity and reliability. To increase both the internal validity and reliability, I made use of triangulation which involved multiple sources of evidence to confirm the emerging findings. This included interviews, focus group, and documents. Furthermore, I also made use of member checks, peer reviews, and a long period of time was spent on the field as verification strategies for internal validity (Merriam, 2002, pp.26&27).

In pursuance of the member checks, validity was undertaken in 2010 during a visit to Nigeria; whilst the peer review was undertaken by two scholars.

The first review was undertaken by a senior colleague of the researcher who was living in the same house and a PhD student of Economics at a London university. The second review was undertaken by my junior brother who lived in the United States of America who was also pursuing a PhD in Library Studies. Their advice was extremely valuable for shaping the direction of the research and its findings.

To establish external validity, I made use of multi-sites in order to provide diversity of the purposely selected three cases and the participants who were interviewed to ensure that the results could be applied to a greater range of situations by the readers as consumers of the research results. In addition to external validity, I provided rich, descriptions of the data to enable the readers to determine how closely their situations matched, and whether the findings of the research could be transferred.

In order to minimise the problems of reliability, I made use of the audit-trail through a description of how the data had been collected, categories derived, and how decisions had been made throughout the research process (Merriam, 2002, pp.28&29). I also established validity of the research through provision of the theoretical framework, the Competing Values Framework (CVF), as discussed in the previous chapter, which reflected the research questions, the literature review, the data collection, and the data analysis.

In addition in compliance with the British Education Research Association (BERA) (2011, p.8) to ensure validity as a good practice which mandated the debriefing of participants regarding the conclusion of the research and provided them with copies of the report, I promised that a copy of the thesis would be made available to each institution on completion.

5.7 Case Study Analysis

According to Dawson (2009) in case study research, analysis occurs simultaneously with the data collection. In this study, the approach for the analysis was based on the Competing Values Framework (CVF) which served as the theoretical framework. Notable researchers (Bailey & Jackson, 2003, Braun & Clerk, 2006, Pope, et al. 2000, Ritchie & Lewis, 2003, Smith & Firth, 2011) claim that the framework approach is one of the ways through which qualitative research is analysed.

As pointed out by (Ritchie & Lewis, 2003) the framework approach is a series of interconnected stages that enables the researcher to move back and forth across the data until a coherent account emerged. Therefore, three reasons provided for the use of the framework approach. First, it was particularly suited to analysing cross-sectional descriptive data which

allowed different aspects of the phenomena under investigation such as the criteria under the framework to be captured. Secondly, it enabled an interpretation of the participants' experiences to be transparent, and finally, it encouraged movement of data management to developing the analysis sufficiently to answer the research questions.

In addition, Ritchie and Spencer (1994) pointed out that the strength of the approach is that it is possible to reconsider and rework ideas precisely due to the analytical process that has been documented and accessible because a well-defined procedure has been followed.

In this study, the interconnected stages through the criteria under each model of the CVF explicitly evaluated and described the processes that guided the systematic analysis of the data from the initial data management through to the development of the descriptive to interpretive accounts.

The case study analysis is based on multiple cases permitting cross-case analysis and follows replication rather than sample logic. Each case is treated as separate entity that permits replication. Replication logic requires the careful selection of each case so that it either predicts similar results (a literal replication) or contrasting results but for predictable reasons (theoretical replication) Yin (2003, p.47).

In order to achieve this, a constant comparison method Strauss & Glaser (1967) was used. The analysis began from the case study sites when permission was granted for the recording of the interviews which were later transcribed through listening to the recorded interviews and checked for clarity; whilst the flow of the discussions was compared with the interview schedule and any place where local language such as 'Yoruba' was used were identified for proper translations to be undertaken. However, the quest for findings made me tabulate the theoretical framework based on each model and the criteria evaluated under each model.

The next step involved the description of the characteristics of the cases in order for the readers to have knowledge of the polytechnic higher education institutions under study.

The next step involved the coding of themes from the collected data which was highly central to the analysis. The coding was manually facilitated due to the complexity surrounding qualitative data analysis and followed a thematic approach. At this stage, I became familiar with the transcribed interviews through their reading and re-reading in order to identify initial themes, concepts, processes and the context related to each criterion evaluated under the framework.

In this study, 45 themes (Table: 11) through coding were identified. I subsequently provided definitions for all of the codes as pointed out by (Charmaz, 2006) who suggested

that categories could be developed through synthesising and explaining data that had been coded because categories involved several codes leading to definitions that contributed to the conceptual analysis.

In this particular analysis, codes were defined as a compilation of how a particular code was expressed in the interviews (Bailey & Jackson, 2003). For example; for the code, "*management support*" under the human relations model, staff training and development criterion, one respondent at the federal polytechnic said; **"*We have made it so liberal that any staffs who want to go for further studies are allowed to go*".** At the state polytechnic, another respondent said; **"*The custom of this polytechnic is for you to develop yourself*",** and at the private polytechnic, a respondent said; **"*The president gives his moral support for individual training*".** These three responses became the definition for the theme coded management support. This process was consistently followed using each criterion under the CVF as a category for coding, and using extensive quotes from the interviewees which allowed the participants to construct their life experiences. Miles & Huberman (1994) referred to this process as a verbatim transcription from the interviews and documents analysed to identify common themes, and to Smith and Firth (2011), the process involved using printed versions of the transcripts while key phrases were summarised using the participants' own words.

Further, the analysis recognised the derived goals; upgrading of the polytechnics to university status, eradication of corruption from Nigerian society, solutions to resolve the irregular electricity supply, stop the discrimination against polytechnic graduates in the labour market, and establish a single unified funding council for tertiary institutions in Nigeria as effectiveness criteria. However, they are beyond the powers of the academic leaders of the investigated institutions and as such require government interventions.

The final step involved the comparison and contrasting of the themes by clumping together themes which were similar or went together and those that differed in order to bring out clear-cut distinctions as reflected from the data and to ensure that the research questions were answered. As pointed out by Dawson (2009), comparative analysis occurs when data is derived from different people and compared and contrasted; whilst the process continues until the researcher is satisfied that no new issues are arising.

5.8 Conducting the study

This study has investigated the effectiveness in higher education with reference to polytechnic institutions in Nigeria. When conducting this study, I carefully provided an in-

depth methodology to help understand the phenomena, and clarify the philosophical assumptions to determine the methodology and method as a qualitative and case study respectively. However, I have also identified the ontological stance as nominalism due to multi realities in existence, with the epistemological assumptions being anti-positivism, whilst the paradigm has been constructivism and basically subjective in nature.

Summary

This study is exploratory in nature to enable an in-depth understanding of higher education effectiveness with reference to the polytechnic education. There is also a conviction within the literature that research in order to be meaningful should best be conducted in a comparative framework and as such, this study looks at three institutions under a variety of conditions in order to make useful comparisons. I have also conducted numerous interviews with institution administrators, faculty members, non-academic staff, and students. Every campus was visited during the data collection process which involved triangulation comprised of semi-structured interviews, a focus group, and documents in order to answer the research questions. The study made use of the qualitative methodology; while the case study as a method provided greater advantage to the understanding of the phenomenon being investigated.

The next chapter provides the research findings, revealing the answers to the research questions under investigation.

CHAPTER SIX: RESEARCH FINDINGS

This chapter presents the findings regarding the evaluated criteria of effectiveness from the three types of data collected; interviews, focus group, and documents. The data is presented by reporting on the responses of the interviewees to the research question based on the ten criteria (10) evaluated under the Competing Values Framework (CVF). As stated in the methodology chapter in reference to data analysis the data has been analysed manually. This has made it possible to identify similarities and differences for each criterion under the CVF according to the information provided by the respondents. However, the analysis of the results will also provide a basis for research conclusions and recommendations.

The research questions are:

1. **How do the polytechnic higher education institutions compare in terms of perceived effectiveness in achieving their missions within the higher education system?**

2. **What goals can be derived from the participants' interviews that relate to perceived organisational effectiveness?**

As stated in chapter five, the research provides adequate anonymity and confidentiality to the participants and a pseudonym is assigned to each participant according to the categorisations detailed in chapter three. For example, in the cases of the Federal polytechnic, the classifications are as follows:

- Top management is assigned: Federal Polytechnic, top management.

- Lecturer is assigned: Federal Polytechnic, lecturer.

- Administrative staff is assigned: Federal polytechnic, non-academic.

- Student is assigned: Federal Polytechnic, Student.

For the State and Private polytechnics, the practices for anonymity and confidentiality follow the same pattern. For the State polytechnic the categorisations are, top management, lecturer, non-academic, and student; while for the Private polytechnic the categorisations assigned are, top management, lecturer, and non-academic. In addition, the focus group is assigned as the Private Polytechnic focus group while the former State rector is assigned as State polytechnic, former top management.

The ten effectiveness criteria evaluated are as depicted in table (9) below:

Table 9: Competing Values Framework and Effectiveness Criteria

Models	Criteria
Human Relations	**Staff Training and Development**
	Staff Remuneration
	Campus Relationships
Open Systems	**Ability to Acquire Resources**
	Physical Infrastructures and Equipment
	Accreditation
Rational Goal	**Strategic Planning**
Internal Processes	**Accountability**
	Internal Resource Allocation
	Information Communication Technology

Source: Researcher

To fulfil the purpose of the study, this chapter will present the institutional profiles, and narratives according to the respondents.

6.1 Case Study Characteristics

The characteristics of the cases are intended to provide basic knowledge to readers of the research study, based on the structuring of the higher education sector in Nigeria: federal, state, and private respectively.

6.1.1 Federal Polytechnic

The Federal Polytechnic is one of the leading academic institutions, recognised as a centre of excellence, with nine world-class schools and a number of acclaimed departments. The alumni and academic staff shape the world they inhabit. They include numerous prize winners, and some of the nation's most renowned politicians, doctors, computer scientists and bankers to mention just a few. Federal Polytechnic programs have been accessible to students through full-time and part-time courses. As of 2009/2010, there were over 17200 students studying a single program at the polytechnic. The polytechnic maintains robust and effective quality assurance mechanisms for all its programs. Part-time students embark on specially

designed programs of study, which are on a par with the full-time courses. The Federal Polytechnic started as a technical institute.

The objectives of the College were established to provide full time and part-time courses of instruction and training in Technology, Commerce and Management, and in other fields of applied learning that are relevant to the development needs of Nigeria in areas of industrial and agricultural production and distribution, and to include research into the development and adaptation of techniques that the Council of the College determine. The Federal polytechnic has nine faculties and thirty-four departments. At the time of the study, the total number of staff stood at 1,869 comprising 525 academic and 1344 non-academic staff respectively. In Nigeria today, there are 21 federal polytechnics across the country **(appendix 5).**

6.1.2 The State Polytechnic

In 1975, the State Government decided to approve the establishment of a College of Science and Technology as the first State owned tertiary institution. State Edict No 1 in 1978 became effective on the 1st June, 1977 and gave the college its legal foundation. In January 1978, classes commenced at a temporary site, and in 1986, the name of the Institution was changed to 'polytechnic'. The Polytechnic is presently non-residential and students attend lectures from their respective homes. However, opportunities abound for private organisations who are interested in building student hostels at the polytechnic's permanent campus. The school also arranges to provide affordable accommodation to students. The polytechnic as at 2009/2010 had 36,987 students enrolled full-time, 5 faculties, and 31 departments. The strength of the staff stood at 813, comprising 368 academics and 445 non-academics respectively. There are 38 state polytechnics in Nigeria **(appendix 4).**

6.1.3 The Private Polytechnic

The private Polytechnic started as a Computer College in the early 1990s'. Following the Decree 9 of January 1993, allowing for the establishment of Private Polytechnics in the country, the private polytechnic was fortunate to be registered by the Federal Government in 1999. The Certificate of registration is numbered *FME/NBTE PP/00/02* and dated 4th September, 2000, making the Polytechnic the second private Polytechnic institution in Nigeria. The private polytechnic has 2 faculties and 6 departments. At the time of the study, the staff number 32 comprising 17 academic and 15 non-academics respectively, and full-time students' enrolment as at 2009/2010 was 1825. There are 15 private polytechnics across the country.

As a private Polytechnic, its functions, and general objectives do not detract from its public responsibilities, as they are overseen by the same regulatory body. However, private polytechnic institutions in Nigeria can only award a National Diploma (ND) until permission is granted for the award of Higher National Diploma (HND) **(appendix 3).**

All the institutions are multi-campus in nature. The highest qualification awarded in the polytechnic system is the Higher National Diploma (HND), while the lowest qualification is the National Diploma (ND).

The next section considers the findings based on interviews, focus groups and documents collected for the purpose of the study.

6.2 Human Relations Model

The concern of organisations under this model is how to improve employees in order for them to be more valuable, work in harmony and thereby achieve organisational goals. They are internally focused and flexible. Respondents were asked to explain the extent of human resource management within polytechnic institutions. The criteria evaluated under the human relations model were; staff training and development, staff remuneration, and campus relationship.

6.2.1 Staff Training and Development

The question regarding staff and training development centred on discovering if institutions were meeting the needs of the general staff in terms of human capital development. The question was met with mixed reactions. The findings from the interviews showed that participant responses as regards staff training and development could be classified under five major themes:

- Budgetary Allocation;
- Management Support;
- Self Sponsorship;
- Staff Turnover; and
- Career Development.

6.2.1.1 Budgetary Allocation

Responses from the public polytechnics indicate that budgetary allocations from the government were a determining factor in the achievement of staff training and development. A member of top management at the federal polytechnic recounted the activities of the institution on staff training and development for several years. The respondent expressed the efforts thus:

"For the federal polytechnic in the last eight years, manpower or human development, a large chunk of votes for the year goes towards staff development. Just to encourage staff to develop themselves and those who can be covered within the annual budget for the year are allowed to go" **(Federal Polytechnic, top management).**

A lecturer at the federal polytechnic recognised the constraints associated with budgetary allocation that facilitated the achievement of training and development of staff and responded thus:

"Lecturers are not well trained as not enough funds are being provided for staff to embark on training and development" **(Federal Polytechnic, lecturer).**

A member of top management buttressed this view:

"Part of the budget allocation involves training of my staff. The money is grossly inadequate and as such we've not been able to give necessary training and development to our clinic staff" **(Federal polytechnic, top management).**

Another lecturer responded similarly:

"Let me be frank with you. The budget allocation is grossly inadequate because there are occasions when lecturers who were supposed to go for seminars, trainings, conferences were turned back due to lack of funds" **(Federal Polytechnic, lecturer).**

At the State polytechnic, a member of top management also responded on the subject of budgetary allocation as follows:

"If there is a budgetary provision in the vote, we will be allowed to go for seminars and workshops locally and abroad" **(State Polytechnic, top management).**

Buttressing this view, a lecturer explained how all the staff in his department attended the professional conference because the costs had been included in the previous year's budget:

"Virtually everybody here belongs to the professional body COREN. Twelve (12) senior and two (2) junior level staffs belong to the body. All of us attended the conference. The school financed all the fourteen (14) staffs as we have included the cost in last year's budget" **(State polytechnic, lecturer).**

Another member of top management explained the importance of the training and development of staff as part of public service conditions and responded thus:

"Ehhh...we manage that very well. Training and development in the conditions of service, is there. Every year, there is budgetary allocation for staff development, for further studies, for various training, internship, attendance of various seminars and conferences, all these are meant to develop the human capacity of the staff to discharge their duties and responsibilities effectively and enhance professionalism. We provide funds for these from the central votes" **(State Polytechnic, top management).**

A member of top management at the state polytechnic described the process of budgeting and explained why institutions experience acute shortages of funds affecting the achievement of their missions:

"For a few years I was involved in budgeting especially as the Dean of School, you can prepare the budget but the issue is that even within the polytechnic, the proposals will be reduced by at least 40% before forwarded to the government and finally passed to the House of Assembly for approval. At the end of the day, funds will be allocated but one must note that there is difference between allocation and release of funds. And so, this is the problem we are experiencing in getting education funded and I believe it is not peculiar to State Polytechnic as it is not far to what happens to Federal Polytechnics also. When your budget proposal is cut down at the institution level, when it gets to a higher level, it is cut down further, so you manage with what you get at the end of the day" **(State polytechnic, lecturer).**

In contrast, the private polytechnic seemed to be less pre-occupied with staff training and development issues. Responses indicated that it was not part of the culture of the institution to provide a budgetary allocation for the training and development of staff. A member of top management staff of the institution puts it as follows:

"On conference attendance - the polytechnic has not sent any staff on training at least not to my knowledge" **(Private polytechnic, top management).**

The researcher went further to ascertain how budgets were being prepared at the private polytechnic. Responses indicated that there was a Zero-Budgeting system at the institution:

"Under normal conditions budgets should be prepared but for the fact that the polytechnic is still small and the President is always around monitoring everything so he prepares the budget from his house the way he wants, but by the time we probably move to the permanent site, then the faculty board will now meet to approve budget proposal before they are implemented. But right now, there is no budget preparation. It is being handled by the president alone" **(Private polytechnic, top management).**

6.2.1.2 Management Support

There was a consensus among the respondents at the three polytechnics that management policies provided support for staff members willing to develop themselves with or without a financial commitment from the polytechnics. A member if top management at the Federal polytechnic expressed the support as being liberal, but with the condition that staff must fulfil their obligations in terms of a primary responsibility to the institution. Lectures must not suffer. The response was thus:

"We have made it so liberal that any staff who want to go on to further studies within the south western part of the country are allowed to go on their own, even if funds are not available - provided they can cope with their lectures" **(Federal Polytechnic, top management).**

Similarly, responses from the state polytechnic indicated that funds were always made available for staff to develop themselves. A lecturer indicated that the training and development of staff had become a culture, and as such management encouraged staff to undertake training. The lecturer responded as follows:

"I am really happy to inform you that here we have funds for training and we encourage lecturers to go. So really, the custom of this polytechnic is for you to develop yourself. We believe in it and this is why even you too, you are developing yourself now. The beauty in knowledge development is that **"don't rest until you are tired of acquiring knowledge"** **(State Polytechnic, lecturer).**

Another lecturer at the state polytechnic buttressed management support for the institutional staff training and development thus:

"From this school now, I have six (6) people training in Europe, of whom one has just returned. Some are doing their PhDs in Nigerian universities. Some are doing their post-graduate studies on a part-time basis and others on a full time basis depending upon the lecturer and the nearness of the university that gave them the appointment" **(State polytechnic, lecturer).**

At the private polytechnic, the president also offers moral support to staff who wants to go for training as recounted by a top management staff of the polytechnic.

6.2.1.3 Self Sponsorship

Responses on this theme indicated a consensus at the federal and private polytechnics that staff should embark on self sponsorship to train themselves. This training includes; local and overseas training and part time or full time training. In contrast, most participants interviewed at the state polytechnic indicated an availability of funds to send staff on training. At the federal polytechnic, a top management executive explained that while the management policy does not support staff sponsorship overseas, they are however motivated by receipt of salaries and wages while on training. He responded as follows:

"*Because of government policy, many of the staffs studying abroad are going without sponsorship but on study leave with pay* **(Federal Polytechnic, top management).**

Another member of top management who heads the library at the institution explained that professionalism was one of the basis on which staff were encouraged to train and develop themselves. He responded thus;

"*Presently, we have 80 staff members in the library in the proportion of professionals, para-professional as well as clerical staff. Right now, four of our staff is doing part-time PhD programmes with the premier university on self-sponsorship*" **(Federal Polytechnic, top management).**

At the state polytechnic, the story was different as management proactively encouraged staff to register with various professional bodies associated with their disciplines and attend seminars, workshops, and conferences. An interviewee expressed satisfaction with the huge amount spent on training and development by his school as most of the staff attended seminars, workshops, and conferences annually. A member of top management expressed their satisfaction as follows:

"*As a non-academic staff member I always attend workshops; I have attended two this year alone not to mention lecturers who belong to professional bodies. They all attend annual scientific conferences and the polytechnic pays. In the department of engineering over N1 Million is spent annually because it is compulsory for all qualified engineers who are members of the COREN to attend an annual scientific conference. The accountants in our midst attend an annual ICAN conference including workshops and seminars*" **(State polytechnic, top management).**

At the private polytechnic, the issue of training and development was not a concern directly for the management; rather it was reliant on personal staff motivation. A member of top management commented as follows:

"Training and development is on personal basis as there is no money to sponsor lecturers on training yet. We have some lecturers who are pursuing higher degrees but they are responsible for their sponsorships (**Private polytechnic, top management).**

6.2.1.4 Staff Turnover

This theme covered self-sponsorship by staff. After finishing their training, they always look for greener pastures. This is commonly referred to as the brain drain by higher education literature. At the federal polytechnic, one lecturer lamented the mass exodus of his staff after completion of their self-sponsorship programmes. He refers to staff turnover as follows:

"A situation whereby staffs have to use their own resources for their improvement is not helping the polytechnic system. What it means is that these lecturers are training themselves for better future opportunities and when such opportunities come their way, they leave the institution for better prospects. The institution must develop the staff. For example, in our own Building department, four (4) lecturers left after attaining higher degrees through their personal efforts, and this disorganised the students learning process. If not for the fact that we are in Lagos, such lecturers are very difficult to replace. No doubt, this kind of situation always has adverse effects on the quality of our students" (**Federal Polytechnic, lecturer).**

6.2.1.5 Career Development

This theme highlighted the importance of staff training and development to federal polytechnic staff as regards staff career progression. A member of top management expresses the criticality of this as follows:

"We ensure that every year, staffs attend conferences, workshops and seminars because it is a condition for their promotions so they are encouraged to attend at least a conference in a year" (**Federal polytechnic, top management).**

In contrast, the promotion issue at the state polytechnic is not conditional on conference attendance noted by a member of top management:

"As for promotions, as long as you have been in service for three years and the Head of Department recommends you and they know that you have not had any query, so be it. That is

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how I rose through the ranks to my present position as a director" (**State polytechnic, top management**).

Furthermore, an interviewee commented that in order to remain abreast of current academic research in higher education the polytechnic should subscribe to various journals that can improve the staff's career development. He expressed his concern thus:

"The institution should subscribe to some journals. All what we see in the library are abstracts of articles and this cannot help us as far as knowledge building is concerned. An individual lecturer may not be able to pay for such a subscription. We cannot afford it and the issue is that without these journal articles, we are left behind as lecturers at a higher institution" (**Federal polytechnic, lecturer**).

Besides these themes, there are other participants who shared their life experiences on staff training and development within their institutions as follows:

At the federal polytechnic, a lecturer who believes that equality throughout the ranks is essential expressed his feelings to institutional management thus:

"Also lecturers should be sponsored for postgraduate training studies both at home and abroad - as they do universities lecturers. Encourage them to go for seminars and conferences both locally and abroad" (*Federal polytechnic, lecturer*).

A top management staff who recognised the deficiencies associated with the abilities of some staff called for the retraining. He expressed his concern thus:

"We also have challenge in the area of competence. There are some areas of lapses because of in-capabilities. Some people lack the requisite knowledge of what they have to do. Well, management can correct this through training and re-training and by encouraging staff to take professional examinations to bring their abilities to the level required" (**Federal polytechnic, top management**).

Another lecturer was appreciative of the efforts of the institution's management as regards staff training and development, stating:

"Honestly, the polytechnic is interested in the advancement of the staff. Every member of staff has been on a computer training programme; hence virtually every one of us is computer literate though not to a large extent" (**State polytechnic, top management**).

On staff training and development, the federal and state polytechnics showed more concern as regards professional training than the private polytechnic. However, there was a consensus among the respondents that the financial resources available should not be limited, although evidence abounds that the three polytechnics were constrained by the inadequacies in funding as regards achieving this goal. A few respondents; especially those at the private

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polytechnic, felt that a more strategic approach to staff training and development should be emphasised as investment in people reflects a more strategic manner by which to improve the effectiveness of the polytechnics.

6.2.2 Staff Remuneration

Responses showed that remuneration is a very sensitive issue within the higher education system in Nigeria; it had resulted in many strikes by the staff at tertiary institutions. The remuneration of the staff at polytechnics is overseen by the regulations of the Federal Civil Service Commission (FCSC), while at the State polytechnic it is under the State Civil Service Commission (SCSC). This means there is no uniformity across the wages and salaries at the two public polytechnics. However, there was a consensus among the respondents from the three institutions that polytechnic staffs' salaries and wages were very poor. The themes under remuneration are classified into two sets:

- Discrimination; and
- Negotiation.

6.2.2.1 Discrimination

Most of the respondents who were spoken to at the federal polytechnic viewed this as a contentious issue, as remuneration was regarded as a clear case of discrimination against them when compared with university staff remunerations. An interviewee indicated that a lecturer in a polytechnic is limited in aspirations in terms of salaries and wages unlike their university staff counterparts who have no such restrictions.

A lecturer expressed concern about remuneration thus:

"Another problem is the poor remuneration – our salaries are below universities' salaries structures. I have lectured at the university before and my colleagues are still there and I know how much they are earning. All these problems have made polytechnic staff shadows of themselves" **(Lecturer, Federal polytechnic).**

Another lecturer expressed similar views on remuneration thus:

"Lecturers are not well remunerated or motivated. You know lecturers need to be upgraded from time to time like universities lecturers" **(Lecturer, Federal Polytechnic).**

Another lecturer went back in time when discussing comparative remuneration, and blamed the government for the disparity:

"I can remember when I graduated more than 20 years ago, the degree holders were placed on level 8/3 in the public service while polytechnic graduates were given 7/2, even though they had all spent the same number of years in their institutions. This was seriously discouraging and it is like the government is helping it to be so" **(Lecturer, Federal polytechnic).**

At the state polytechnic, the story was similar to that told by their federal counterparts. Several respondents claimed they had protested against unfair treatment for quite some time and were dissatisfied with their present remuneration:

"As a state polytechnic, we have been agitating that the government should pay us what is being paid to our university counterparts since we are in the same segment of higher education. We have embarked on strikes in the past to achieve our objectives but the government continues to make promises every time the issue is raised" **(State polytechnic, Lecturer).**

6.2.2.2 Negotiation

The issue of remuneration at the private polytechnic differed to that at the public polytechnics. An interviewee commented that remuneration was being negotiated and as such no uniformity existed in the payment of remunerations to staff because decisions were made by the president of the institution. An interviewee who doubled as top management and had retired from a public polytechnic before joining the private polytechnic shared his experience thus:

"Being a private polytechnic, the remuneration cannot be compared with the public polytechnics. Here, we negotiate for our remuneration as there is no law in place governing private salaries and wages. So we have no choice if we are interested in working with the polytechnic" ***(Top management, Private polytechnic).***

Buttressing the views of the top management on remuneration, a lecturer perceived the situation thus:

"The second concern is about the salary structure. It is a problem that is facing all institutions in Nigeria. The level of one's education is not commensurate with earnings" **(Lecturer, Private polytechnic).**

Another lecturer viewed the remuneration issue as a different matter, asserting that his greatest reward was his contribution to human capital development:

"I am satisfied and I am building on destinies. It's not the pay but the lives I am impacting upon. This is my greatest desire and I have lived a fulfilled life. Even if I leave lecturing

tomorrow, I know what I have imparted upon lives that are out there. That is the greatest reward that I have" **(Lecturer, Private polytechnic).**

On the issue of remuneration, the respondents commented that money was a strong motivation and an important criterion when hiring and retaining competent staff at institutions. However, unfortunately, the respondents at the three polytechnics perceived their remunerations to be grossly inadequate and unrepresentative of their work.

6.2.3 Campus Relationships

The co-existence of stakeholders on campuses contributes to effectiveness. Respondents have divergent perceptions of campus relationships. The objective here was to discover the inter-relationships that exist among management, staff, and the students on campuses. The themes associated with campus relationships can be grouped into three:

- Positive relationship;
- Conflict; and
- Partiality

6.2.3.1 Positive Relationship

At the federal polytechnic, several respondents characterised a cordial relationship between the management and the staff. One interviewee gave management a very good rating as regards campus relationships.

"I will score management between 70-80% because the relationship on campus is very cordial and besides the management is a listening one and they are willing to help always whenever there is any problem at hand" **(Federal polytechnic, lecturer).**

At the federal polytechnic, the students were also asked to explain their perceptions of campus relationships. Several of the students spoken to, maintained there was a cordial relationship between management, staff, and students. An interviewee who doubled as an executive member of the Students' Union Government (SUG) claimed that top management sometimes engaged in divide and rule tactics but that the students refused to be used against their lecturers.

"Well, the relationship has been a cordial one. For example, the rector has an open door policy and welcomes students at any time. As far as I am concerned, the management and the students are very friendly, we are not quarrelling. We also have a cordial relationship with

our lecturers. Even though, sometimes, the management wants to use divide and rule tactics but we have not allowed them to penetrate our union so they don't scatter us. Well, about management – academic staff relationship, I don't want to comment on that. Also, that not all of our lecturers are good but I believe majority of them are not bad" **(Federal polytechnic, student).**

At the state polytechnic, several respondents claimed there was cordial relationship between the management and lecturers on one hand and also between management, staffs, and students on the other. An interviewee also maintained there was a cordial relationship across the board on campus as both academic and non-academic staff interacts with each other as colleagues, peers, and as a family. The lecturer described the family forum as being practiced in the institution as follows:

"On campus here, we have a family forum where parents come and we discuss issues with parents. There is respect here all the way. From students to lecturers and from lecturers to management and from management to students and because of that system they have been able to see the relative peace that we have now. Our students know that we will listen to them and they know that they must give the respect that is due to the lecturers and I pray that if we continue this way we will enjoy freedom in our institutions. We don't lord things over our students but we do encourage them to dialogue for whatever they want. This we have been doing and we hope that if this continues we will enjoy peace on our campus" **(State polytechnic, lecturer).**

Simply put, a lecturer described the relationship on campus as *"warm"*, commenting that it had brought peace during the tenures of the current and previous rectors as no major crisis had been experienced. Furthermore, another lecturer reflected on the culture of the Yoruba's'; he believes in reconciliation, regarding the campus relationship as emotional comprising of happy people. He puts it this way, "*we are able to relate with each other knowing that it's not a one-time interaction*" **(State polytechnic, lecturer).**

A top manager at the state polytechnic described the on campus inter personal relationships of the rector as excellent. According to him, the rector is a *'**unique person'*** who will never overlook you anywhere. If he sees you far away and you do not see him, he will call out to you and greet you. Furthermore, he knows more than 90% of the academic and non-academic staff by their first names. One may be surprised that the Rector knows everything about you. He has made an interpersonal relationship work better in the Polytechnic of his time. When comparing the rector with other past rectors, the lecturer asserted:

"We have seen Rectors in the past who cut-off relationships and widened the gap between themselves and other staff" **(State Polytechnic, lecturer).**

The lecturer concludes:

"In his case, he goes to places unannounced. So the relationship between management represented by the rector and the generality of the staff is fantastic" **(State polytechnic, lecturer).**

A lecturer who heads the School of Management and Business Studies (SMBS) reflected on the inter-personal relationships in the school. In the state polytechnic, the SMBS have the largest number of students. The lecturer described the relationship among staff as follows:

"Here we see ourselves as colleagues and peers. We even rap, play together now not minding the seniority difference among us. We eat together, you can enter any of our offices at will, we play, and we even have a staff canteen that unites us. I have never seen a situation where one lecturer quarrels with another lecturer. If there is any misunderstanding, we disagree to agree and that can be settled without any serious problems. So in terms of inter-personal relationships, it has been very cordial" **(State polytechnic, lecturer).**

Another member of top management described the values when interacting with the students as follows:

"Interacting with students is very advantageous because you will be able to know what problems are facing them and know the way you tackle those problems so they don't become a stumbling block or a barrier to the career they have come to pursue. Some may even have some family or marital problems and through interaction you will know what kind of advice you will give and that will open the gates for you to be able to penetrate and teach that person a particular principle on your course and that person will be able to listen because that barrier or stumbling block has been removed through interaction" **(State polytechnic, top management).**

At the private polytechnic, a few respondents spoke to express that there were cordial relationships on campus. An interviewee explained that the president was a listening leader who had the interests of his staff at heart. An interviewee regarded the campus as a place where harmony reigns supreme, due to interpersonal relationships among the management, staff, and students.

"My relationship has always been cordial with my staff... where there is break down it slows down the progress and pace of the work. So information has to be the key word in the department and I believe that at least I have been coordinating the affairs of the department

by carrying my staff along as able companions in order to achieve the departmental objectives. We are all brothers and sister, because we have a woman lecturer among us - and my relationship with my students, I think, we have been having a very mutual understanding. They are my raw materials and without them, I wouldn't be here and any attempt to send them away is as if I am jeopardising the efforts of the school. Since it's a one-man business, I need to complement the efforts of the man by making sure I give the best and whenever they have complaints, their complaints must be adequately taken care of" **(Private polytechnic, lecturer).**

Buttressing the cordial relationship, another interviewee depicted campus life thus:
"The general co-existence in the institution is not from the proprietor alone but all the staff as well. I believe that as a system, we should all be one and if anything goes wrong with one person, it will affect the whole system. Our institution is in synergy, whereby if anything affects any of the systems, it has affected the whole system" **(Private polytechnic, lecturer).**

6.2.3.2 Conflict

Responses here indicated that there was misunderstanding between the Academic Staff Union Staff executive members and the federal polytechnic and management. Many respondents considered misunderstanding as a necessary phenomenon within institutional politics, while other respondents viewed it as volatile and damaging to the academic environment. The divergent views are as follows:
"Well the relationship between the management and the academic staff union is not cordial. Right now, the union (ASUP) is not operating because there was an issue in which the Union demanding academic rights. Even if you are not granted such a right that does not mean you should suspend the executive members. It is not right. Three of the Union's executive members are on indefinite suspension and the implication is that, this may turn into major crisis in future if not well handled. For some time now, there is no cordiality between academic staff and the management" **(Federal polytechnic, lecturer).**
A member of top management recognised this strained relationship but noted there was mutual understanding between the two parties:
"Well, I think we are being cordial. But sometimes there is a misunderstanding between the academic Staff Union, Association of Staff Union of Polytechnics (ASUP) and the management, but we understand their case and they also understand our position" **(Federal polytechnic, top management).**

Another lecturer reflected on the strained relationship and the unacceptable attitudes of management:

"The academic environment should be a place where different views should be encouraged and this will improve learning and also help to improve the system, because we encourage our students to speak their minds. That is the best way to learn. So, if lecturers are not in a position to make their minds known and instead they are blackmailed, denied their rights by the management, this is not the best for the system. And the last issue is the inciting of students against lecturers in order to gain the sympathy of the students, so that it looks as if it is the lecturers who create problems, all these gimmicks no doubt will eventually come into the open and everybody will know the truth" **(Federal polytechnic, lecturer).**

Another lecturer perceived the conflict in a philosophical manner:

"Well, I can say is cordial but any relationship that is smooth all the time is not a good relationship. There is slight conflict between the management and the academic staff but it has not degenerated into situations where we go on strike. I can say the relationship is cordial. Even among the lecturers, we cannot do without minor conflicts but all these are being resolved when they occur and we are moving forward" **(Federal polytechnic, lecturer).**

Echoing this view, another lecturer characterised the relationship as a normal one, such as that which can occur between a husband and wife:

"Yes, it is cordial, even husband and wife do quarrel. If there is a dispute and it has been put before the court, actually, it is not worth discussing but before you and me, there was a dispute and I am sure through dialogue, it will be settled. The polytechnic Council has come in" **(Federal polytechnic, lecturer).**

6.2.3.3 Partiality

One interviewee expressed concern over preferential treatment towards some academic staff when conducting dealings within the institution.

"Because of this strained relationship, management has been very partial because those whom they see as their friends, even though they may not be the best are rewarded, while those who are really hard working are not appreciated. This was reflected in the last Award Ceremony because Management did not promote competence and it has been very difficult to organise another Award Ceremony. Can you imagine the "Personal Assistant (PA) to the Rector getting an award in the institution to the detriment of well-deserved academic staff? Can we then say the PA was more important than the academic staff in the institution? That

did not make any sense... [laughter] So that is just the situation" **(Federal polytechnic, lecturer).**

The respondents recognised the importance of interpersonal relationships in the workplace as a way in which organisational culture could be developed; allowing healthy relationships to be promoted through regular interactions. In view of this fact, it was perceived that there was more cordiality in the state and private polytechnics than the federal polytechnic.

6.3 Open systems model

In this study, open systems indicated the abilities of the polytechnics to acquire resources from the external environment to achieve their mission. Most respondents viewed this model as most critical to the achievement of polytechnic goals and three criteria were evaluated: ability to acquire resources, physical infrastructures, and accreditation.

6.3.1 Ability to acquire resources

Specifically, this criterion was interested on how the polytechnics acquire financial resources to realise their goals. Three themes were derived from the interviews namely:

- Government subsidies;
- Internal generating revenues; and
- Donations.

6.3.1.1 Government Subsidies

There were unanimous responses regarding government subsidies for the public polytechnics, their mode of allocations and adequacy, while there were mixed responses concerning donations. The respondents indicated that the public polytechnics rely on various government funds for their yearly budgetary allocations. Some of the interviewees at the federal polytechnic described the types and usefulness of grants from governments.

A member of top management explained the funding components of the polytechnic thus:

 "Eh... largely, the funding for federal polytechnics in Nigeria is from the Federal Government because this is a federal government institution. Funding comes under three or four headings. The first is the capital grants from the Federal government, which is used to

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finance capital expenditure, to procure long-term assets, which are fixed in nature. Such assets are fixed and include buildings, generators, motor-vehicles, equipment, machinery and so forth. The second is overheads that are used to meet the day-to-day expenses such as purchase of diesel, petrol, stationeries, travelling, and utilities. The third is personnel grants, and this enables us pay salaries and staff wages. These are the sources of Federal government funding that come to the college. However, capital and re-current investment depends on the objectives we have in mind. While capital will cover fixed assets as elaborated no earlier, re-current investment covers both overheads and personnel costs. Finally, we also receive specialised funds from Institutions like the Education Trust Fund" (ETF) **(Federal polytechnic, top management).**

Another member of top management perceived funding in relation to the institution and his unit thus:

"The polytechnic is funded by the Federal Government through the management of the institution. The money earmarked for the Clinic is from the budget allocation given to the Polytechnic which is shared among the schools and other administrative units in the polytechnic" **(Federal polytechnic, top management).**

This led another top manager to compare polytechnic funding with that of universities; discussing how vision 2020 can be realised in Nigeria, so that it can function in the same way as industrialised nations:

"You find that the government pumps more money into the universities to the detriment of technological education which the polytechnic represents. Any nation wanting to develop technologically requires that government must pump in more money to enable competition among the committee of nations and at the same time realise the objectives of Vision 2020, which will place Nigeria among the first 20 industrialised nations of the world. For example, China pumped money into technology and is dominating world markets, and the same can be said of other developed nations such as United Kingdom, United States of America, and Canada" **(Federal polytechnic, top management).**

At the state polytechnic, the funding allocation is similar to that at the federal polytechnic as the institution also depends on state government subsidies. Most of the respondents confirmed that funding comes from the state government.

A lecturer spoke about the polytechnic's funding as follows:

"The State Polytechnic is a polytechnic owned by the State Government. The bulk of the money being used by the polytechnic comes from the budget allocation from the State Government" **(State polytechnic, lecturer).**

A top manager classified the sources as follows:

"Well, the state government offers two sources of funding for the polytechnic. You know we are a state-owned tertiary institution. We have two types of subventions. Recurrent subvention, which is meant to pay staff salaries and cater for some of our running operations and we also have capital subventions, in which the government offers grants to cater for our infrastructures" **(State polytechnic, top management).**

As for the private polytechnic, the respondents spoken to indicated that no government subsidy had been allocated to them. An interviewee noted that there was no private polytechnics open when the government enacted its decree for the funding of public polytechnics. An interviewee also made it known that the Association of Private Polytechnics (APP) in Nigeria were pressurising the federal government to consider offering subsidies to private polytechnics. In contrast, the proprietor of the private polytechnic under study made it abundantly clear that he did not want any government subsidies, due to the corruption associated with public regulatory agencies.

"Well, being a private polytechnic, the owners have to source for funds by themselves because government subsidy does not apply to private polytechnics. Another thing is that if private polytechnics want to embark on capital projects, they would have no other option but to take loans from the bank at a break-neck interest rate" **(Private polytechnic, top management).**

He continued, making it abundantly clear why government subsidies were not needed by his polytechnic. He gave some reasons to back-up his assertion:

*"If we have seen how government lacks the courage to fund its own public polytechnics and universities, so if we say **"Federal Government, we need subventions"** in other words they may have a say in your day to day running of the school. If we had allowed that, this private polytechnic would not have been on ground for the past ten years. We have never had a staff strike, no staff union, and no students' union. No students have gone on the streets chanting for change because we have enough funds to provide for the number of students we have on ground. We don't have to wait for a government decision. This is good because the government can decide that in this year's budget, you are going to get so much as subvention, which is the case at public institutions. Such allocations do not arrive for another three to four years. Can we afford - as a private initiative, an operator who also owes the bank - to wait perpetually for the government? You know the government is not forthcoming at the right time"* **(Private polytechnic, top management).**

Emphasising the negative implications of reliance on government subsidies the proprietor notes:

One, the interest rate of the loan you have taken from the bank is waiting for you. Two, your own personal investment is going down the drain. No profit, nothing. All the implementations and lofty ideas; buying more equipment, buying more things for the laboratory, upgrading your learning equipment, will lag behind because you are waiting for the government money to come" (**Private polytechnic, top management**).

Another member of top management referred to private polytechnic funding thus:

"Emmm, if I may say going by the ownership style of the school which is a one-man business, most of the income realised is from the tuition fees from the students and our source of funds for capital projects are mainly through the banks" (**Private polytechnic, top management**).

According to the interviews on government subsidising of public polytechnics, two sub-themes were generated:

- Subsidies mode of allocation; and
- Inadequacy of allocation.

6.3.1.1.1 Subsidies Mode of Allocation to Institutions

Governments worldwide transfer funds to institutions through line items or block allocations. The respondents spoken to described the mode of allocation of subsidies to the public polytechnics as follows:

"No, the subventions from government are usually released on a monthly basis. These are the personnel and overhead expenditures, but capital grants are usually released on quarterly basis. Qualifications for grants are based on institution requests, availability of funds and priority" (***Federal polytechnic, top management***).

Another lecturer described the mode of allocation and its negative effects on the implementation of objectives thus:

"No, it is interesting to let you know that the money does not come at once, it comes periodically and this delays the implementation of the budget. This financing system cripples a lot of objectives to be realised at school and departmental levels. To me, this is not very good" (**Federal polytechnic, lecturer**).

The experiences of the respondents at the State polytechnic were similar to those at the federal polytechnic. Most respondents claimed subventions from the government were being received on a line basis:

A top management responded to the mode of allocation of funding thus:

"So we are being financed through subventions from the State Government and our subventions come every month - though the budget is done on an annual basis, and approved en block" (**Top management, State polytechnic**).

This view was endorsed by another respondent thus:

"We prepare budgets every year. We send our budgets to the Headquarters of the State Government where they approve the budget en block for the financial year and they start disbursing it to us monthly" (**Top management, State polytechnic**).

6.3.1.1.2 Inadequacy of government subsidies:

Here, responses relate to whether government subsidies were adequate for the public polytechnics to realise their mission. Several respondents indicated that the inability of respective governments in funding public polytechnics have been a major stumbling block to the realisation of the polytechnic's goals.

At the federal polytechnic, a member of top management staff explained the inadequacy thus:

"...the fact that at least 90% of grants given to higher educational institutions such as polytechnics in particular go to providing for staff emoluments, which is really indicative that what we have left is hardly enough to maintain or even provide for much needed infrastructure not to talk of running costs of the institutions. Definitely funding has become an issue which the government must address properly" (**Federal polytechnic, top management**).

Another individual explained the inadequacy as follows:

"Ha, the funds are hardly adequate, they are not adequate. So, the funds from the government are hardly adequate for any activity of any institution including the federal polytechnic. Of course, you know, our age is a challenge because you have a lot of things that were established in the early 40s that are still here and there are no adequate funds to keep them going, particularly the buildings which you need to keep renovating, equipment maintenance, stationery and lots of things" (**Federal polytechnic, top management**).

Another lecturer perceived the inadequacy thus:

"Honestly, the money is very inadequate. As an Oliver Twist, I will always ask for more and I want to say that as a matter of fact, the government should accelerate their methods and disbursements of funds allocation. The funds are not very adequate at all because to occupy the position of a Dean or Head of Department, a lot of contact must be made and what they

normally give to us is not even enough to buy recharge cards for my phone in a month. I want the government to improve in this area. They should make the jobs more attractive for us" **(Federal polytechnic, lecturer).**

A member of top management also elaborated on the inadequacy:

"I would say it has not been enough for some years now and I have been pleading that what we are getting can be improved upon so that we can operate at a much better level than how we are operating now" **(Federal polytechnic, top management).**

Another member if top management, who was present at the rector's paper presentation to the Educational Trust Fund (ETF) on funding, commented thus:

"Ah... well... the funding is far, far, far, far from being adequate, except the personnel subventions which comes on monthly bases to pay staff salaries. Even the Rector recently presented a paper to the ETF that what the college requires is continuous and heavy strategic funding. If the funding is adequate, I am sure the rector would not have made such a statement" **(Federal polytechnic, top management).**

One lecturer expressed the effects of the inadequacy of funding on students enrolled on practical courses, thus:

"Well, we have so many workshops such as carpentry, concrete laboratory, painting and so on but because of the inadequacy of funds, the school have told the students to inform their parents to purchase the practical materials. At the beginning of each semester, the lecturers prepare manuals and list the practical materials needed for each course to enable the students to buy them for their use because this is the only way in which the students can engage in their practical tasks. Besides this, the students are also made to buy some consumables for some equipment, because the management is not prepared to purchase them for us. What I do is that; we persuade and make sure the students buy them. I do not encourage any of my lecturers to collect money from them. It is as bad as that and there is nothing I can do as the Dean" **(Federal polytechnic, lecturer).**

Furthermore, another lecturer complained about the inadequacy of funding and asserted that in most of the family meetings held with the rector, the complaint has been the downward movement of the overhead budget, and the fact that the schools are not given freedom to fund themselves. He suggested that the polytechnic should be encouraged to grow **(Federal polytechnic, lecturer).**

Echoing these views, a member of top management staff called on the government to increase higher education funding to 25% of the budgetary allocation, as against the present 9%. Another lecturer blamed the politicians for the inadequacy of polytechnic education

funding in Nigeria. According to him, majority of them now have their own schools and as such, they do not care whether the public schools are progressing or not. The funding for polytechnics is extremely low and characterised as partial. If our goal is to sponsor the growth and development of polytechnic education, people should not pay lip service to them. He concluded thus:

"Polytechnic education has been effected as it polytechnics are rated second-class institutions in terms of funding. Policy-makers have forgotten that polytechnic education is technical-oriented and as such requires more funding than universities. You can see that polytechnic education is grossly under-funded" (**Federal polytechnic, lecturer**).

Responses at the state polytechnic were similar to those at the federal polytechnic. A member of top management staff characterised the inadequacy thus:

"Ah… it's grossly inadequate if I must answer that straight. The funding of the school by the government is grossly inadequate. The school is being run basically by the IGR, which we add to the little subventions the government gives to the school management. The funding is grossly inadequate" (**State polytechnic, top management**).

In contrast, an interviewee, who was a former rector at the polytechnic commented that the problem related to wastage; he asserted that government funding was adequate if spent wisely and judiciously by academic leaders.

"Wastages that I outlined in the area of municipal services and wastage when it comes to corporate governance issues… where you have to run the council secretariat take care of the governing council members who you are supposed to meet four times a year but see probably every week because of what you want to get. Corporate governance takes a huge amount of the allocation from the budget to the detriment of core teaching and core assignments. We can address this issue of wastage. I want to assure you that I belong to the school of thought that says we have enough resources to manage these institutions" (**State polytechnic, former, top management**).

The former member of top management also indicated that funding in higher education must be linked to leadership vision as stated below:

"Adequate, funding of any tertiary institution is more of having a leader with great vision and commitment. No amount of funding from the government will ever be enough to fund any segment of education, be it primary, secondary or tertiary. But when it comes to a tertiary institution, its more complex, for technical education, it is even more complex because for

technical education, the layout of the equipment, the type of equipment and facilities that you require are very expensive" **(State polytechnic, former top management).**

At the private polytechnic, no subventions were being received from the government but the proprietor did comment on the inadequacy of funding thus:

*"When funding is not on ground, the educational system itself can no longer offer what the polytechnic system should offer because there is no money to buy equipment to really train these technologists" (***Private polytechnic, top management).**

6.3.1.2 Internal Generating Revenues (IGRs)

Perceptions and opinions from the respondents suggested that government funding of public polytechnic institutions is grossly inadequate, and most responses showed that the polytechnics were striving to obtain additional internal revenues and fundraising from the private sector of the economy.

A member of top management at the federal polytechnic confirmed the importance of the internal generating revenues commenting:

"why we are able to cope at federal polytechnic is that we have what is called Internal Generated Revenue (IGR) which include; income from running of part-time programmes, Royal Guest House, locked-up shops and others" **(Federal polytechnic, top management).**

At the state polytechnic, an interviewee explained that since the government cannot bear all the responsibilities of funding the polytechnic, Internally Generated Revenues (IGRs) from part-time programmes, poly-consults, and additionally consultancy work for outside parties are undertaken to generate additional finance. This money is used to augment that which comes from the State Government. A lecturer whose school generates revenues for the federal polytechnic through a concrete laboratory explained that both individuals and organisations from outside the school make use of the resource. The private polytechnic on the other hand plans to launch a full-scale IGRs program when the institution moves to its new permanent site, as asserted by a member of top management staff below:

"In future by the time the polytechnic moves to its permanent site, there may be prospects for that, because the polytechnic may go into agriculture, animal husbandry, pure water business, bakery, carpentry, furniture making, design and so forth. The students will be able to produce goods for sale to finance their education. This is what we are proposing to do in the near future" **(Private polytechnic, top management).**

Seven themes under the internal generating revenues were associated with the three polytechnics. They include:

- Guest houses;

- Poly Consult;

- Part-time Courses;

- Tuition fees;

- Capitation fees;

- Ownership Contribution; and

- Printing and Business Centre.

6.3.1.2.1 Guest House

Most respondents reported that the federal polytechnic has been the owner of a guest house since 1999, and that it is being managed by a consultant on lease agreement basis. One interviewee described the guest house as having 20 rooms, a banqueting hall that can accommodate 50 people, a standard room for meetings of not less than 20 people, a restaurant and a bar, and a comfortable furnished space in front of the guest house for those who prefer to eat food purchased elsewhere. An interviewee indicated that the guest house provided both Nigerian and continental dishes and served numerous customers both locally and foreigners. However, when an interviewee was asked about the profitability of the guest house they declined to answer the question. Thus, the proceeds from the activities of the guest house was not disclosed or given to the researcher. An interviewee confirmed that the responsibility of daily operations rests on the consultants who pay regular amounts as returns to the institution. The manager who deals with the daily operations at the guest house explained the relationship with the polytechnic thus:

"Well, we are on a lease agreement. We agreed on a certain amount, which we are paying regularly to polytechnic, and the day-to-day operations are done by us. Our own is to ensure we meet our agreed obligations and it is not the institution's concern whether we make a profit or not" (**Federal polytechnic, non-academic staff).**

6.3.1.2.2 Poly-Consult Company

Several respondents reported that the federal polytechnic was involved in small ventures carried out through a poly-consult established in June, 1996 as a limited liability company. One interviewee referred to the block and the paint industries established in 2010 and 2011 as respectively serving the major small scale industries generating revenues for the polytechnic. Several of the respondents who were spoken to regarded the poly-consult as the

commercial arm of the polytechnic, offering consulting for both private and public organisations. A few respondents commented that the poly-consult company was intended to augment the revenue resources of the polytechnic, since government subsidies were no longer adequate or sufficient for the running of the polytechnic. Some respondents described the poly-consult structure as having three basic arms: project, programs, and services; with service coordinators, a deputy director, and a director at the top hierarchy of the consult. The consult also has a Consult Management Board headed by the rector. In sum, several respondents regarded the consult as a major organ of internal generating revenue of the polytechnic.

Someone in top management position for the consult explained its activities thus:

"All commercial activities on campus for example come under the purview of the federal polytechnic Consult. They include; locked-up shops, kiosks, spaces to mention but a few. All these activities are supposed to be under the headship of a service coordinator but as of today, we don't have such position. So, I as the project coordinator oversee these commercial activities. We also have a Programme Coordinator. Apart from the consultancy services, we also conduct training, which are courses that are short-term in nature - between 3 and 6 months. The training is conducted on behalf of our clients and most of them are in-house trainings and include Information Technology Communication (ICT) and road safety training in conjunction with the Federal Road Safety Corps (FRSC) and so on" **(Federal polytechnic, non-academic staff).**

However, data showing profit and loss accounts results for the poly-consult were requested by the researcher. A promise was made to make these available but the promise was not fulfilled. I consider this an intentional oversight; because a member of top management staff had pointed out to me that the polytechnic's audited accounts were not meant for public consumption. In literature, there is a school of thought that does not support entrepreneurial transformation in higher institutions due to the possibility of a conflict of interest. The few respondents consulted regarding this issue were of the opinion that this was not the case at the federal polytechnic.

A member of top management at the poly-consult explained his roles as both an academician and consult staff:

"For example, myself as the Project Coordinator, I am first and foremost, an academician on the payroll of the institution because I still teach my classes and my services to the consult is an ad hoc basis which I consider creative most of time and this also apply to other staff. Even the coordinator of the consult is a chief lecturer in the institution and must also render her

academic responsibilities. Oh, there is no conflict of interest because the poly-consult structure is run in correlation with the professions of those of us running it. As the program coordinator, I am an architect by profession, the project coordinator is in the management profession likewise the coordinator and the consultancies and projects undertaken fall under the purview of our training and in no way affect our primary assignments at the institution" **(Federal polytechnic, lecturer / non academic staff).**

6.3.1.2.3 Part-time courses

The Federal Polytechnic also generated additional revenue by running part-time courses. On the basis of a document received, there are fifteen courses currently available part-time: Accountancy, Building Technology, Business Administration, Civil Engineering, Electrical Electronic Engineering, Estate Management, Food Technology, General Art, Graphics, Industrial Maintenance Engineering, Mechanical Engineering, Quantity Survey, Science Technology, Secretarial Studies, and Statistics. A top member of management staff explained the decision to offer such courses thus:

"You know, the government doesn't give enough funds to any institution. You can understand this. But the school supports by way of internally generated revenue. We have not been able to go too far at the departmental level because we are also involved in generating funds at the school level. The school that our department belongs to, the School of Business and Management Studies (SBMS) has a business centre and is also involved in training part-time students." **(Federal polytechnic, lecturer).**

At the State Polytechnic, according to most respondents part-time courses represent the major IGRs at the institution. Several respondents attributed the success of the part-time programme to the vision and foresight of the former rector. This fact was buttressed by several respondents. A member of top management explained sources of internally generated revenues as follows:

"Part of our internally generated revenue comes from ventures like the Poly-Consult, Poly-Commercial Farms, the Staff School and the Annexes. But the major revenue, whereby the school raises funds to augment the government allocation to support the institution funding is basically through part-time programmes" **(State polytechnic, top management).**

Another interviewee with a top management role described the activities of the School in running part-time courses as follows:

"The institution is also involved in part-time programmes, we have a Consult which runs various programmes and we equally have a School of part-time studies which also run part-

time programmes where some of the working class work and study at the same time so that they can keep their jobs and at the same time pursuing academic and professional training in the institution. Through this, the institution is able to generate revenues, which go into augmenting whatever the government is allocating. This has been a major source of funds over the years. Most of the money we use, in addition to allocation from government to discharge our services, is mainly from our own Internal Generated Revenue (IGR), based on what we derive from our part-time programmes" (**State polytechnic, top management).**

One lecturer emphasised on the benefit of IGRs as follows:

"The polytechnic has diversified a bit. We are looking at other avenues for internally generated revenues which also will assist us in providing some basic facilities and requirements that the students need in their workshops, studios and classrooms so the subvention government gives goes some way but it does not adequately provide all we need. We run some part-time programmes that augment whatever the government is providing for the polytechnic. So sometimes, we have to fall back on our Internally Generated Revenue (IGR) to support some of the shortfalls" **(State polytechnic, lecturer).**

Several respondents confirmed that in 1999 a former rector at the institution introduced an offshoot from the part-time programmes: the establishment of the Grassroots Education Empowerment Scheme (GEES). An interview was granted with the former rector who indicated that the aim of the programme was to bring polytechnic education closer to the doorstep of communities and cater for the numerous youths who roam about the streets after completing secondary school and those adults who are in employment but who have had limited time to develop themselves. The initiator went further, noting that permission was sought and granted by the state government to use public schools as centres to reduce costs, while competent consultants were recruited as partners based on profit sharing ratio of 55% to 45% between the consultants and the institution respectively. The respondent also confirmed that within a span of three years, day, evening, and weekend part-time programmes had emerged across the five divisions of the state.

He recounted his experience as follows:

"We started with courses in the areas of social sciences, business administration, accountancy, banking and finance, insurance, marketing, secretarial studies and we initially had 6 outreach centres which we call annexes, gradually up to 13 and I am aware that today, there are about 40 in all corners of communities and the 5 divisions of the state, all over we have these annexes. And one is always happy when you see those students at matriculation having been part of tertiary institution" **(State polytechnic, former top management).**

(In a document I received, it was shown that the State Polytechnic ran thirty-seven part-time centres across the state in 2010 (**appendix 8**).

6.3.1.2.4 Students' Tuition fees

The fact that Federal higher education institutions in Nigeria do not require tuition fees was a subject of controversy between the management and students at the polytechnic. Several respondents claimed that the polytechnic was not charging tuition, but the student respondents insisted that tuition and fees were paid to the Federal Polytechnic. Two themes emerged from the interviews that were associated to tuition fees. They are:

- Tuition and Fees Determinants; and
- Mode of Payment.

"Well, the school doesn't charge tuition because the Federal Government does not give approval for it, but they pay other charges such as: matriculation gown, registration fees and these fees vary from session to session. Those students who pay tuition and fees are the part-time students; even so they are not economical because of the environment we are in - if we were going to charge them a viable rate, we would charge them more. For now ND students pay between N30, 000 and N40, 000 which is not commensurate with what is spent to train each ND and HND student per year" **(Federal polytechnic, top management).**

In contrast, an interviewee who was also a student union leader reacted to the issue of tuition charges.

"No, Federal institutions charge tuition. I can remember sometimes on campus when our tuition fees were posted that we are going to pay between N19, 000 and N20, 000, the students kicked off against the amount and we protested that the tuition was too high. We had a meeting with the rector and he told us that the Federal Government has directed that Federal institutions should find other sources of funding for running the institutions because the government grants given to them were not enough and as such they must charge the students. So therefore, we pay tuition fees at the federal polytechnic. Now when students are paying between 19,000 and 20,000 naira, and yet you said they don't pay tuition, then what are they insinuating" **(Federal polytechnic, student).**

At the state polytechnic, the story was similar, although students pay meagre tuition fees compared to those at other public institutions. Most of the respondents spoken to confirm there was agitation to increase the tuition fees, but that this has been constrained by political factors.

6.3.1.2.5 Tuition and Fees Determinants

A member of top management explained that the determinants of tuition fee payment at the private polytechnic were both economic and competitive, as stated below:

"Well, you can see that the economy is not stable. Lecturers' salaries must be increased to meet their standard of living. So based on this, we also look at our competitors, if they are increasing, because it is not binding on our polytechnic alone, it's binding on all others. So, if other institutions are increasing their tuition fees we are not left behind, we will also follow. That is the whole point. We watch closely because we are not operating like Robinson Crusoe who was alone on an island. We are within the competitive market. We are actually moving ahead with the times, because if you don't move along with the time, time will leave you behind. That is it" **(Private polytechnic, top management).**

A member of top management at the state polytechnic explained the political factors associated with tuition fees payment by the students thus:

"Well, the IGR itself is also impaired in the sense that since the State Polytechnic is a state-owned institution and they have a limit to which they can even increase the school fees of the students. There is hindrance in that aspect that would have enabled the school to generate more funds to run the school. You will see that the political party that is running state affairs is different to other parties. In other states we have other political parties at the helm and one of the state policies to the electorate is free education. So basically some of our HND students are paying as low as N2,250 so you see that there is a constraint in that aspect" **(State polytechnic, top management).**

An interviewee indicated that if the polytechnic was to charge the real cost of training a student, then the students would pay more. The respondent buttressed his claim with the statement below:

"At the large management committee meeting held in June 2009, a similar question came up and they asked the bursar to take a look at the school fees the students are paying. At the next meeting, we told them that if we are to be charging actual fees for each student, then each one will be required to pay a minimum of N350, 000 (£1,400) per session as that is an average amount that the school spends to train each student" **(State polytechnic, top management).**

Some respondents confirmed the claim of the top management that the tuition fees charged were meagre compared to other institutions. An interviewee at the national level of her studies commented on the tuition fees as follows:

"As National Diploma (ND) students, we don't pay much really. We pay N250 for registration….It's about N3,500 in total. Very cheap" **(State polytechnic, student).**

Another interviewee at the Higher National level also perceived the tuition fees as follows:

"I am pursuing my Higher National Diploma (HND) and when I got my admission, the amount I paid was about twenty something thousand naira but now I pay like N3,000 (three thousand) for my tuition fees apart from my course form. The tuition is not too much" **(State polytechnic, student).**

6.3.1.2.6 Mode of Payment

At the private polytechnic, the tuition fees represent the major source of internally generated revenues. An interviewee maintained that the tuition and fees being paid by the students were adequate for the running of the polytechnic. Meanwhile, another interviewee maintained that unlike in other institutions, the polytechnic had adopted the culture of receiving tuition fees from students on a semester basis rather than session basis.

"Like I told you, our major internally generated revenue is tuition fees and other income, through admissions forms and others, is used for maintenance purposes because they are meagre amounts of money" **(Private polytechnic, top management).**

In contrast, the payment of tuition fees by the state and federal polytechnics students' was on a per session basis. An interviewee explained the mode of payment at federal polytechnic thus:

"We pay per session. Once you are in ND1, you pay for the whole ND at the beginning of the session and the same applies to the HND1 and HND 11 students. The full time pay is N17, 000 plus other administrative expenses, which vary from department to department. The tuitions are on the high side" **(Federal polytechnic, student).**

At the private polytechnic, the tuition fees paid by the students were as follows:

"Unlike the government institutions, the amount we pay here per semester is N38, 500. However, when we get to ND 11 levels, we pay N36, 000" **(Private polytechnic, student).**

The researcher wanted to know the adequacy of the tuition fees received in terms of supporting the mission of the private polytechnic. An interviewee responded thus:

"The fact is that there's a parable that anyone who uses a goat to trap a tiger knows what he stands to benefit. If you are setting up a polytechnic knowing full well that there is no subvention from anywhere, you should know sources of funds with which you will fund the polytechnic. As at now, the revenues from tuition fees are enough to fund the institution right now so that is what we are using" **(Private polytechnic, top management).**

Table 10: Revenues from Tuition and fees (Full-time students)

Academic Session	Federal Polytechnic	State Polytechnic	Private Polytechnic
1999/2000	41,096,338	48,990,498	5,162,928
2000/2001	34,041,110	30,883,550	3,435,550
2001/2002	37,428,929	35,191,400	6,998,540
2002/2003	46,651,475	32,512,148	16,946,400
2003/2004	80,337,080	32,338,350	25,838,950
2004/2005	123,191,800	39,040,460	30,807,422
2005/2006	157,646,733	42,943,409	30,718,400
2006/2007	92,486,704	66,845,419	31,719,110
2007/2008	143,661,000	75,707,3038	48,199,675
2008/2009	Not Available	74,452,302	66,175,635

Source: Polytechnic Institutions

6.3.1.2.7 Capitation fee

At the state polytechnic, one interviewee indicated that the medical centre generates internal revenues for the polytechnic.

"At the state polytechnic, the medical centre renders medical services under the National Health Insurance Scheme. It's been registered as a primary health care provider where enrolees come for medical attention and we avail them of the facilities. Enrolees of Health Maintenance Organisations (HMOs) also come in, pay us capitation on behalf of enrolees whether or not they visit us. This is one of the funding sources with which we run the polytechnic" **(State polytechnic, top management).**

6.3.1.2.8 Ownership funding and other contributions

At the private polytechnic, a few respondents indicated that funding came basically through ownership contribution, printing and business centre, and tuition fees. An interviewee also claimed that individuals and societal contributions were the ways in which the private polytechnic generates additional revenues.

"Yes, income of any institution starts from the working capital contributed by the owner. If you don't contribute initially, how do you provide even the building, furniture, automobile, and the generator because in the last ten years, Nigeria has not enjoyed good supply of electricity? It has been the use of generator sets. This must be borne by the owner. Funding also comes in form of grants from individuals in the society who appreciate your dreams and want to be part of your vision such as; missionaries, missions and churches surrounding where your school is located including the community" **(Private polytechnic, top management).**

6.3.1.2.9 Printing and Business Centre

A member of top management described the services as follows:

"This is service subsidised for the students. We have a printing and Business Centre, where all the stationeries, photocopies, duplication, and most of their projects are printed, bound and published for the students. By the time you pay for the salary of the operator in the Centre and energy costs, you discover that it's nothing but a social service to the students. At our permanent campus, we will have a fully blown polytechnic, more courses and departments will be established and under this programmes, a lot of fund generating businesses will be established" **(Private polytechnic, top management).**

6.3.1.3 Donations

Responses here indicated that polytechnic institutions do not attract high financial donations as few of the respondents interviewed showed that most donations were 'in kind'. Those offering can be individuals, organisations, alumni, and even anonymous donors. The two themes identified from the interviews were:

- Kind Donations; and
- Financial Donations.

6.3.1.3.1 Donations in Kind

At the federal polytechnic, the respondents appreciated the importance of donations as major sources of revenues augmenting the government subsidies, but also referred to difficulties associated with them. The respondents spoken to confirmed that the federal polytechnic attracts most of its donations from commercial banks. One interviewee cited examples of donations that had been received from the private sector as; three or four

buildings nearing completion, which were funded by a top-commercial Bank plc at a cost of N120 million, an auditorium funded by another commercial bank at a cost of N100million, a new entrance gate project funded by yet another bank at a cost of N32million at the new Campus School of Agriculture; a newly commissioned ICT centre named after a former governor of the state and funded by yet another commercial bank at a cost of N55million. Some respondents equally indicated that some donations were received through individuals and other corporate organisations besides the commercial banks.

A member of top management explained the reasons behind internal revenue generation thus:

"It is because we spend reasonable money on the maintenance and we equally make efforts to make sure that we generate some revenues, which enable us to execute the basic things that we need to do, but we are at pains because you know the environment in which we work particularly as the government has declared education is more or less free, so it is usually a h erculean task - but more than that, we've been very proactive in going after the private sector" **(Federal polytechnic, top management).**

At the private polytechnic some respondents revealed that most of their donations were from the British Council in Nigeria and also Books Aid International. An interviewee explained that the polytechnic registered with the British Council for funding opportunities, and reported that 30% of their textbooks, which were not available in the Nigerian market, were provided in the form of aid/a gift. Another respondent indicated that annually, the polytechnic enjoyed receipt of close to one to two million naira worth of textbooks, and regarded this donation in kind to the polytechnic community as the best donation it receives.

The proprietor of the private polytechnic gave a vivid account of an in kind donation received from the community where the permanent site of the polytechnic was situated:

"Let me give you an example. When I bought the land for the permanent site for the polytechnic, official receipt of the land bought was one thousand five hundred acres (1,500). But the community - I am not from the community, I am from another State - felt deeply interested and committed to the idea that a polytechnic and a university were coming to their land, so they added two hundred (200) acres to what I bought. That on its own, if I wanted to convert that to money now, holds a value of two hundred and fifty thousand naira (N250,000); you can imagine in financial terms how much was donated to the dream. Now the polytechnic has been built and the polytechnic that has been built will be a take-off campus for the proposed University of Science and Technology" **(Private polytechnic, top management).**

6.3.1.3.2 Financial Donations

At the state polytechnic, it was a different story, as respondents indicated that donations were of a limited amount of money generated by the institution.

"We receive donations from various donors but this is very small and I can tell you that in the past ten years, we have not received more than ten million naira (£40,000) in terms of donations. This means that those individuals and corporate organisations that are supporting polytechnic education in this country are negligible" **(State polytechnic, top management).**

At the federal polytechnic, a member of top management explained how the library was being funded thus:

"I don't have any bulk money for the library from the institution. The one I am sure of is the ETF allocation on an annual basis of N5million to be spent on library matters. When we need to purchase any items, we collate the lists and forward them to the rector who grants us the approval to purchase items. Apart from this, we solicit help, as I told you from other sources in form of donations" **(Federal polytechnic, top management).**

Despite the activities of these polytechnics to acquire resources from the external environment, none can be described as entrepreneurial institutions, in that the public polytechnics still put their reliance on their respective government subsidies while the private polytechnic rely on tuition fees as major revenues (because unlike their public counterparts they do not receive subsidies from the government).

6.3.2 Physical Infrastructures and Equipment

Several respondents from the three polytechnics expressed the fact that there was a negative learning environment due to lack of physical infrastructures and basic equipment. From the interviews, three themes were identified which include:

- Hostel Accommodation Facilities;
- Library Facilities; and
- General Facilities.

6.3.2.1 Hostel Accommodation Facilities

The federal and the private polytechnics provided hostel accommodation for their students. While the federal polytechnic provided for both male and female students, the

private polytechnic provided for only female students. At the federal polytechnic, the hostels were located within the campus, while those for the private polytechnic were located off the campus. The state polytechnic is a non-residential institution.

At the private polytechnic, a few respondents gave accounts of their experiences in the hostel as follows:

"They are also complaining about the increment of the hostel fees. They should be considerate as things are hard these days."

"The hostel fees have increased from five (N5, 000) to ten thousand naira (N10, 000) and may increase even more by next semester. They are asking the school authorities to try their possible best to help them."

"The environment is OK as there is water. What I think is that the generator should be on from 7pm to 11 pm to allow students read before it goes off. The main problem is the transportation problem. Parents are complaining about this too. The distance from the hostel to the school is quite far and we spend up to N150 every day and to combine everything together becomes too much."

"To add to what they have all said concerning the hostels; the hostel fees are paid per semester; every three months while renting an apartment is paid for monthly. Getting an apartment closer to school is a lot better than staying at the hostels. The hostels are only for females so guys have to make do with coming to school from long distances with buses to the school. It's something they should try to look into so boys can stay in the hostels as well rather than coming from far away."

"Adding to what he has said, in the hostel, there is congestion. There can be eight (8) students occupying a single room and this cannot be conducive for reading. In my room we are fourteen (14). There are seven (7) bunk beds in a room. When you want to read at night, you will find some people are playing music, others are making midnight calls hence it is not that conducive" **(Private polytechnic, focus group).**

Another interviewee expressed the implication of having the students' hostel off campus:

"The problems are accommodation and transportation. The students live very far and they don't have a campus feeling. They waste a lot of time on travel, to the extent that most of them come late to the class due to traffic-jams in Lagos" **(Private polytechnic, lecturer).**

At the federal polytechnic, a student who was also a union leader gave a vivid account of life experiences in the boys' hostel:

"To be honest with you, the facilities are not there. We are just managing. In some blocks with eight rooms, only two taps are running and in some bedrooms, there are no showers, can we describe that as a functioning hostel? There are no water closets to flush; you can only flush the toilets by using a bucket. We also have leaking decking making the room flooded during rainy season. In fact, our hostel accommodation can be called a 'death-trap'. Only God is protecting us" **(Federal polytechnic, student).**

Another student gave an account of her experiences at the girls' hostel and the advantages of having a hostel on campus as follows:

"Well, we experience flooding water at times and also students' pass to gain entry and exit to the hostel. If you lose your pass, it becomes difficult for you to gain entrance to the hostel and the pass takes some time before being replaced. Furthermore, it is very effective because you can go to the class in the night and read without fear and come back to the hostel anytime you like. There is also interactions with each other and this encourages us to solve our assignment without any difficulties because if you don't know something, you can ask from your colleagues who will explain it to you" **(Federal polytechnic, student).**

6.3.2.2 Library Facilities

A member of top management explained the problem students face when using the library:

"Presently, we don't have enough space for our students but the polytechnic is making efforts to make provision for more space" **(Federal polytechnic, top management).**

One interviewee complained about the inadequacy of the textbooks in the library thus:

At the State polytechnic, an interviewee described the library services as inadequate because there are no current textbooks in the library for you to do research **(State polytechnic, lecturer).**

Similarly, at the private polytechnic, another interviewee explained that lack of space was an impediment to effective library use:

"At the private polytechnic an interviewee claimed the polytechnic has a library. The library will be enlarged at Iwo because of lack of space here. The library here is very small. So effort is ongoing to open a larger library that can accommodate over four hundred students at the permanent site" **(Private polytechnic, top management).**

The students complained that the library had not been functioning and students were experiencing a shortage of textbooks:

"The answer is very clear and that is an absolute 'No'. The course materials we have are not that comprehensive. As my colleague has rightly said, our library is no longer functioning so we don't even have books to complement what we are being taught in class, except you can go to other institutions to get these materials or search online for them" (**Private polytechnic, focus group**).

6.3.2.3 General Facilities

Due to numerous factors that were introduced in association with the physical infrastructures, they have been coded under general facilities. Such factors include; lack of space, inadequate classrooms, lack of good offices for staff, seminar halls, laboratories, teaching aids, and other things not related to both hostel and library facilities.

At the federal polytechnic, an interviewee emphasised the effects of infrastructural problems on the institution as a whole:

"Well, we have infrastructural problems. The institution has not enough space, so it is affecting the school. Because we have the highest number of staff and students in the institution, we are just being compacted into this small space with the majority of classes and offices partitioned. We don't have enough lecture rooms for our students and offices for our staff. In fact there are other programmes which we ought to have introduced but because of space, this has not been possible" (**Federal polytechnic, lecturer**).

One interviewee explained the perceptions of NBTE personnel as regards the institution's equipment.

"The equipment is too old. Even when the NBTE officials, who are supposed to regulate the affairs of polytechnics, came to our institution, I was very much surprised when they called our school a 'museum' because we still have some 1940s equipment. If you visit our central laboratory, workshops one and two, you will see this equipment. Some of them are still working - but of course you know that they are not the type of equipment we need in this age. Most of them are outdated and we are using them because that is what we have" (**Federal polytechnic, lecturer**).

A lecturer in the Engineering department explained how many consumables are needed by his department in comparison with the social sciences departments, thus:

You can't believe it; sometimes we don't have consumables because they run into millions. You cannot compare our consumables with departments such as accountancy, Business Administration and others, their consumables are only in the thousands. When you ask for

these consumables where available, they give you what cannot last for a single semester not to talk of a whole academic session **(Federal polytechnic, lecturer).**

Another lecturer described how obsolete the equipment was, noting that it was incomparable with that obtained in developed countries:

"Concerning the equipment at our disposal, they are now obsolete and do not match the latest technology being used in Europe and other countries in the world. To place the polytechnics where they belong, there is a feeling that we must use high-tech equipment and tools to be able to meet up" **(Federal polytechnic, lecturer).**

Another interviewee lamented the acute shortage of machinery for practical training:

"You know in the administration of a polytechnic like this, we need equipment and other facilities to actually show how different machines are used in terms of practical learning but I want to tell you that in fact 80% of our machines are not working, the question to ask is: are these machines used to educate the students too? No, if not for the fact that some students train themselves through personal development because they know they might face personal problems after graduation, you will realise that only what we know as polytechnic graduates is theory without practical experience" **(Federal polytechnic, student).**

According to the same student, union leaders had protested to management about this but had not yet had any positive results, not even in the environmental department.

A member of top management lamented the acute shortage of space and commented on how the polytechnic was managing to solve the problem:

"Due to constraint of space, we want to have skyscrapers to maximise the use of space, the Rector used the word "partition technology" because every year, it has become a recurring problem that classrooms must be partitioned so also are offices to create space. This is a big challenge because as an institution, we don't have offices, classrooms, equipment, laboratories. Honestly, infrastructures are far below adequacy" **(Federal polytechnic, top management).**

Another lecturer complained that the staff offices were not well-furnished, while it takes management some time to provide office accommodation to staff. Sometimes, it takes the intervention of the academic union (ASUP) before offices are allocated. She enjoined the management to make the offices of the staff more conducive to work. An interviewee also explained the situation by examining specific departments. According to him, in the Fine Art department, they are not doing so badly. The facilities on ground are partially adequate. The department of Industrial Design needs some more equipment for ceramics, like a digital foundry for firing their ceramic works. The Graphics Design department is in need of

computerised printing machines to replace those in existence because they are obsolete. However, the printing technology department is most affected by poor funding due to obsolete machineries. This department is very capital intensive, the institution and the government know this. Yet another interviewee lamented the limitations caused by insufficient space when introducing new programmes:

"*Well, we have infrastructural problems. The institution has not enough space, so it is affecting the school. Because we have the highest number of staff and students in the institution, we are compacted into this small space with the majority of classes and offices partitioned. We don't have enough lecture rooms for our students or offices for our staff. In fact there are other programmes which we ought to have introduced, but because of space, this has not been possible*" (**Federal polytechnic, lecturer**).

At the state polytechnic, the issues of physical infrastructures were of grave concern similar to the situation at the federal polytechnic.

When we say that infrastructure is not sufficient we are saying that the classrooms we presently use are not large enough to accommodate the students we have. If we have a manageable size of about 30-40 then the classrooms will be adequate. If we have a classroom that should have accommodated 40 students housing 60-65 students the problem of effective learning comes to focus (**State polytechnic, lecturer**).

A lecturer at the state polytechnic depicted the infrastructural situation thus:

"*Nothing is perfect but I think it will be appreciated if much more improvements can be provided. We need laboratories, seminar halls, well-furnished classrooms and teaching aids that will enhance lecturers' performances. We still desire a lot. With the limited funds available, I think the authorities have tried but we can always hope for better improvements*" (**State polytechnic, lecturer**).

Another lecturer perceived the infrastructural problem as follows:

"*When we say that infrastructure is not sufficient we are saying that the classrooms we presently use are not large enough to accommodate the students we have. If we have a manageable size of about 30-40 then the classrooms will be adequate. If we have a classroom that should have accommodated 40 students housing 60-65 students the problem of effective learning comes to focus*" (**State polytechnic, lecturer**).

Another interviewee acknowledged the far from impressive nature of the existing facilities, claiming present management has invested and has continued to encourage lecturers to utilise both the human and material resources available - to manage what we have. Another interviewee in the computer engineering department simply said:

"our classrooms are crowded. Our department has only two classrooms for four levels of students. The school is erecting a building for computer engineering".

Another interviewee simply said *"we need water",* while *a*nother suggested that modern equipment was needed. The interviewees recognise that things are changing, technology is changing and therefore equipment from twenty years ago is not suited to meet today's needs. We need modern and more compact equipment that functions reliably. It is just because the government has not been able to - it's a general thing in Nigeria - to sustain the funding of tertiary education. By and large, the equipment is not sufficient. There is room for improvement.

Another interviewee compared the staff rooms at the state polytechnic with the offices in another polytechnic. He remarked thus:

"When you go to some other schools, you see that one member of staff occupies an office, whereas here, two staff members share an office. But you will not see that an office is shared by more than two staff. If the facilities can be enlarged, then a member of staff can have an office to themselves, because extensive research work is needed for that. If you were to do something now, and my colleague is there working at his table, assuming I want to write a paper and we have students that are coming in to see him, then there will be a distraction from what I am doing here. So if we can have a situation where there is one office for each member of staff, I think that will complement what we have on the ground" **(State polytechnic, lecturer).**

An interviewee complained about the missing practical knowledge in her studies:

"In the department of agriculture we still need a lot of other equipment as you know, agriculture is not about sitting down, it's about practical application, so the school is lacking in some areas such as the provision of the animals we use for our practical so that when I graduate, I'll have knowledge of all areas of practical and not be limited. So that is the only area" **(State polytechnic, student).**

The private polytechnic was no exception in terms of limitations. Several of the respondents spoken to complained about distraction due to lack of space.

"Ninety-nine percent (99%) of the students cannot really read till they get home because no matter how you try to read there is always distraction; two lecturers maybe complaining of noise disturbance from each other's classes" **(Private polytechnic, student).**

Similarly, another interviewee complained of disturbances during lectures:

"Like he said, the environment of the polytechnic is not conducive at all and as students, we should have a conducive environment for study. There are times we have lectures and there

are disturbances from other classes. There is no departmental privacy and I think the school will have to work on that" **(Private polytechnic, focus group).**

From the perspective of infrastructure and equipment, evidence shows that all three institutions lack the necessary capacity to provide adequate facilities such as lecture halls, libraries, residence halls, and other facilities that could promote a high level of effectiveness in achieving their missions.

6.3.3 Accreditation

In Nigeria, there is uniformity in the process of accreditation for polytechnic institutions. Most of the respondents at the three institutions valued the accreditation process as representing the minimum standard requirements for polytechnic institutions and indicated that institutional programmes failing to meet minimum requirements would not be allowed to admit students. Several respondents described the conditions and processes involved. Here, five themes from the interviews emerged under the heading of accreditation:

- Accreditation Requirements;
- Accreditation types;
- Accreditation Funding;
- Accreditation of Courses; and
- Accreditation Bodies;

6.3.3.1 Accreditation Requirements

An interviewee who had occupied various different management positions at the state polytechnic institution gave an in-depth description detailing the importance of the accreditation process within the institution.

Another interviewee offered insights into the communication between the institution and accrediting agencies before the accreditation visit:

"Before accreditation, they sent to the school a list of what they should have; the kind of laboratory they should have, the kind of resource rooms that will be inspected, when they are to go and that we are the ones to provide all these things. NBTE have been working very hard and they have been the only hope to sustain Nigerian private and public polytechnics" **(Private polytechnic, top management).**

An interviewee gave account of accreditation requirements as follows:

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"The procedures are; the records of the department for the last three (3) sessions are checked. They look at the students' enrolment to make sure that they meet the admissions' specifications. Normally, four (4) credits at two sittings are what the NBTE requires. What the team does is to inspect the facilities in place, the number of students compared to the available facilities, the number of staff, both technical and teaching staff, and the ratio of academic to non-academic staff. Then they write their report and make a decision whether approval should be given or not. The interviewee mentioned that for accreditation to be successful, lecturers too must possess both academic and professional qualifications" **(State polytechnic, lecturer).**

An interviewee also stressed the importance of quality staff as a requirement for accreditation:

"Also the required quality of the personnel must be met because they must have the right qualifications in terms of both academic and professional ones, to be able to deliver in line with the curricula of the various programmes. By ensuring that the requirements are put in place, the NBTE, through the accreditation process, ensures quality assurance in the various institutions which is very important for education development and progress" **(State polytechnic, top management).**

6.3.3.2 Accreditation Types

Here there are two sub-themes from the interviews:

- Initial Accreditation; and
- Full Accreditation.

6.3.3.2.1 Initial Accreditation

According to an interviewee, accreditation takes (2) two forms. One is the initial accreditation of programmes and the other is full-accreditation. The initial accreditation involves a programme that is new to a school or within the polytechnic. The NBTE is invited to come and inspect whether the facilities meet the minimum requirement to start the programme. If the programme is approved, the NBTE will come back two years later when the students are in their second year to undertake a full accreditation, which is the second type.

6.3.3.2.2 Full Accreditation

The full accreditation is the same process as previously, but on this occasion, the NBTE act as a facilitator; other lecturers from other polytechnics, personnel from industries, universities and the specific professional body in question (depending on the programme to be accredited) are part of the team. Full accreditation is undertaken for existing programmes.

"Well, accreditation is good because it is a kind of quality assurance process of programmes which ensures that the relevant infrastructures, equipment and the required manpower are in place for you to run any programme and these are the requirements for the effective functioning and delivery of services and every polytechnic is geared towards the provision of these requirements in order to be fit to run their programmes" **(State polytechnic, top management).**

6.3.3.3 Accreditation Funding

Another interviewee described the mechanisms for accreditation funding. The funding arises from two sources. When the accreditation team comes, the school bears the costs of feeding and accommodation, while the honorarium is given by the NBTE as well as transportation for the team members. But in recent times, the NBTE ensures that they do not waste their scarce funds. When they come and your programme is not accredited, the next time you invite them, the school will bear the total cost of accreditation. This is intended to make the polytechnic more responsible in their obligations. The accreditation exercise is becoming more stringent than before which is very good for the system overall. One interviewee maintained that in order not to fail accreditation, management usually release funds to both the faculties and the departments as stated below:

"By and large, the faculty and departments make use of accreditation opportunities to get many things in place because for any programme to be accredited, for example in sciences, a certain minimum assessment for practical laboratory work is conducted and if these requirements are not met the programmes will not be approved" **(Federal polytechnic, top management).**

At the state polytechnic, the accreditation issue was handled in similar way at the federal polytechnic as commented by an interviewee below:

"The institution also used this accreditation opportunity to get more funds from the government. On recurrent and capital expenditures that the government allocates from my experience as a director of school for four years, the capital expenditure sadly is not more than N200M per year and you know as a developing polytechnic, many infrastructures need to be put in place. Most of the facilities are of the makeshift kind and N200M is grossly

inadequate and that is why the departments, faculties, and institutions depend on special votes for accreditation" (**State polytechnic, lecturer).**

6.3.3.4 Accreditation of Courses Procedures

"Most of our courses have been approved but few have been accredited. The approved ones are; Mass Communication, Accountancy, Computer Studies, Business Administration. The unaccredited ones are Marketing and Banking and Finance. By the time we move to the permanent site, there will be more faculties, more departments, more courses and more students" (**Private polytechnic, top management).**

At the State polytechnic, an interviewee gave an account of how his school, mechanical engineering, was accredited the previous year:

"Last year alone a huge amount of money was spent on our accreditation. The NBTE officials that came for the accreditation were very impressed. Even the infrastructure you see here is close to N35 Million for this department alone. I know of another department where equipment was purchased for N17Million. Thirty-six (36) programmes are accredited. In our department we went for full accreditation in production engineering, while we applied for initial accreditation in automobile option. For the automobile option, we did not even have a student. Seeing all the facilities on ground, our excuse is that by the time they gave us the initial accreditation, the admissions had closed and we couldn't apply for students. They said 'don't worry about all these facilities students should enjoy themselves. We will give you another period of grace. Try and advertise and get students next academic session. They did not withdraw the accreditation" (**State polytechnic, lecturer).**

An interviewee who was a former Head of Department considered accreditation of courses to be his best achievement while in office:

"Well, the position of HOD is one that a responsible lecturer would want to occupy because it gives you a good profile. I did my very best in terms of managing both the academic and administrative affairs of the department. During my time, the department was accredited by both Institute of Chartered Accountants of Nigeria (ICAN) and the National Board of Technical Education (NBTE), which was a great achievement for the department" (**Lecturer, State polytechnic).**

6.3.3.5 Accreditation Bodies

Another interviewee provided the implications for accreditation and the bodies responsible for it. The interviewee claimed that two bodies accredit the polytechnic institutions. NBTE accreditation approval ensures that Higher National Diploma graduates will participate in a mandatory one year programme of the National Youth Service Corps (NYSC) and vice-versa, while the professional accreditation enabled students to be granted exemptions in their respective professional examinations.

The responses revealed that there were common elements by which the accreditation effectiveness throughout the institutions could be evaluated, due to the fact that in Nigeria, all polytechnics were regulated under one umbrella. However, in terms of accredited courses, the federal and state polytechnics had more of their courses accredited than the private polytechnic.

6.4 Rational Goal Model

One criterion strategic planning was evaluated under this model.

6.4.1 Strategic Planning

This model is externally focused and stresses how control can be maintained and viability achieved by organisations through environmentally valued outputs. There is one criterion evaluated under this model and the long-term goal emerged as the only theme.
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6.4.1.1 Long-term Goal

One of the basic objectives of strategic planning is the ability of organisations to scan the environment, and review the availability of resources in order to formulate new and appropriate goals to be accomplished. Responses indicated that certain institutions were pursuing differing goals.

At the federal polytechnic, the goal was to increase the number of programmes; at the state polytechnic it was to meet up with the computer age, while at the private polytechnic there was agitation to move to the institution's permanent site. The quotations below distinguish between these different goals:

At the federal polytechnic, the focus of the strategic planning of the institution was to establish an international maritime college as part of the institution's programmes. An interviewee expressed the goal thus:

"As an institution, we identify national problems within the educational sector and we find solutions to them. For example, we have identified a new area, "Maritime Studies". We

discovered that the country needs "seafarers" and we have only one Maritime Academy Training individuals in Nigeria and it is far away from a seaport and we are nearer to a seaport where there are a lot of ships. So we have decided to have a Maritime School that will have an international reputation. We have gone to India, South-Africa, Ghana to study how maritime schools are being run so that we can come up with our own model. This pursuit represents one of our strategic planning goals " (**Federal polytechnic, top management**).

At the State polytechnic, there was a specific period allowed for strategic planning, but no time was given as a deadline for the completion of the digital park building.

In our own polytechnic, we have a strategic plan, which spans a five year period. The one we have now was put in place in 2008 and will last until 2013" (**State polytechnic, top management**).

A member of top management explained that one of the strategic planning goals at the institution was to guarantee the polytechnic's computer compliance. In view of this fact, the institution had embarked on the construction of a digital park building that would provide computer links within the institution and also the outside world. During the interview with top management, the Council Chairman at the polytechnic came to inspect the digital building, while it was under construction. He expressed the goal of the institution's management thus:

"We need internet compliant boards and we need our students to have knowledge about using computers. I am happy that this morning we went together to look at our digital park and we want to make it compulsory just as typewriting was compulsory for those in the 60s and 70s that passed through the school of management. The knowledge of computers or a software operation, designing and software - we want it to be part of polytechnic education no matter what course you are doing; whether you are in the sciences or school of business. In today's world no matter your vocation or career, you must understand computers in order to be effective and computer knowledge brings effectiveness in whatever endeavour, and as such management are now putting a lot of money into the running of the school. You saw the project and the number of computers that will go into it for the use of our school on this campus" (**State polytechnic, top management**).

According to the proprietor of the private polytechnic, one of the priorities of the strategic planning of the polytechnic was the relocation of the polytechnic from its present site to a permanent site based in another state of the federation. The proprietor explained as follows:

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"Well, our goal is to make the polytechnic a take-off campus for the proposed Westland University of Science and Technology. At our permanent campus, we will have a fully blown polytechnic, more courses and departments will be established and under this programmes, a lot of fund generating businesses will be established. In the faculty of Environmental Studies where we have the departments of Architecture, Building and Town planning, Quantity surveying... all over the world in school I have attended, graduate students are used for consultancies in all these kind of human endeavours. The local government can source building projects for hospitals and schools from the department of Environmental Studies by designing small scale hospitals to bring some money from the consultancy and that is what we want to do by establishing a Private Polytechnic Venture Limited. When that is established, a lot of business opportunities will be looked into and all our connections will be tapped to make sure the school generates more funds apart from the school fees accrued from the students." **(Private polytechnic, top management).**

In sum, the three polytechnics all make use of long-term goal setting to consolidate their future priorities.

6.5 Internal Process Model

Here the respondents were asked to examine the internal health of the polytechnic institutions and three criteria were then evaluated under this model; these included, accountability, internal resource allocation, and information communication technology.

6.5.1 Accountability

On the issue of accountability the respondents were asked how the polytechnics realise accountability measures, most especially in compliance with the government rules and regulations that govern the public institutions. Several interviewees indicated that governments have established accountability procedures for the public polytechnics through the procurement act, internal auditing, financial and final accounts which were audited by special government agencies. At the private polytechnic, several of the respondents spoken to claimed there was no formal required for accountability in place, as every effort to establish accountability mechanisms was geared towards the president's personal decision. An interviewee noted that the institution provided a process for accountability as dictated by the proprietor. Here four themes emanated from the interviews:

- Statutory Requirements;

- Internal Control;

- Impress Accounts; and

- Auditing of Accounts.

6.5.1.1 Statutory Requirements

At the state polytechnic, a member of top management explained statutory requirements for accountability thus:

"In terms of accountability, we prepare our financial reports based on this and constantly, the Parastatal Monitoring Office (PMO) requires a monthly rendition of returns which we submit as required by the State Government. The bursary give copies to the Rector, the principal officers, the deans and directors of schools as well as their budgetary performance reports and we equally make copies available to the appropriate authority that needed the reports for accountability" **(State polytechnic, top management).**

Another member of top management explained the statutory requirements for accountability thus:

"There is monitoring by relevant government agencies for example; the office of the Auditor-General of the State Government comes to the polytechnic from time to time to inspect all our books and make sure all our expenditures are properly done" **(State polytechnic, top management).**

At the federal polytechnic, statutory requirements were explained thus:

"We have several teams of auditors both from the Auditor General of the Federation office and Accountant General of the Federation coming at different times to see the extent to which money has been utilised and how adequate and doing value-for- money audit. They also write their reports on how to improve the institution/s financial performances" **(Federal polytechnic, top management).**

Another member of top management explained about the document issued by the federal government to guide accountability in federal institutions:

"In addition to that anyway, from 2007, we have the 'PROCUREMENT ACT' which is binding for all Federal Government institutions and that is a very comprehensive document, which stipulates structures to ensure accountability. We follow this document to the letter" **(Federal polytechnic, top management).**

6.5.1.2 Internal Control

An interviewee who was responsible for overseeing the private polytechnic's financial operations described the accountability system thus:

We have so many measures in place. We keep different books we prepare and we have our records in place at least to show the money that comes in and money that goes out with the necessary approvals. For the income monies, we have the receipts, which are the major evidence proving that students have paid their tuition fees. We also have the ledger books, which show the records of students who have paid and the time of payments. Every aspect of income received has different codes, which differentiate the type of income received from the students and others. The ledger book reveals every transaction and is the most books relevant for accountability purpose. In addition to that, we also have payment vouchers, which for all expenses or money that goes out, we have voucher for that effect which the president of the school approves. So no money goes out without the approval of the president" **(Private polytechnic, top management).**

Another top management reinforced the emphasis on proper processes detailed above:

"The bursar prepares monthly financial reports and presents these to the president for scrutiny. At the end of the year, he prepares final accounts and the auditor is invited to audit the accounts to see if there are any malpractices and so on and so forth. To the best of my knowledge, since the inception of the institution, there has not been any financial misappropriation. The accounts have been intact and the returns have been encouraging since inception, because apart from the initial period, the polytechnic has not made a loss in recent years" **(Private polytechnic, top management).**

An interviewee at the state polytechnic compared former internal processes of accountability with the present as follows:

"You know in most of these establishments, it is very bureaucratic but there are processes in place. Requests for funds depend on what you really want to use the funds for. Take for instance if you request funds to purchase equipment, there are levels of approval for the amount of funds requested. At the Dean's level, the approval level is for N20,000 (£80) while HODs do not have an approval level. But I could recollect when I joined the polytechnic in the 80s' the approval level for the Rector was N5,000 (£20) but this was a time when the Naira exchange rate to the dollar was very high. So N5,000 that time was a substantial amount of money. During this period, the Director's approval level was N1,000 (£4) while the HOD was N500 (£2). With these monies, then, you could buy tangible and basic things for your school and department. For example, at that time, the Dean's money could purchase

a new micro-biological media but today, N20,000 cannot even purchase a second-hand micro-biological media" **(State polytechnic, top management).**

He continued:

"Right now, if you want to purchase any equipment valuing up to N100,000, it must go through a contracting procedure where people will bid and a minimum of three (3) quotations will be required, of which the lowest will be chosen to supply the needed equipment. This process is to ensure that the right specification of equipment is supplied. But for capital projects, like buildings and so on, the council of the polytechnic is always in charge of that. Also, when little things below N1,000 are purchased, the audit department must be aware and sometimes endorse and even see the item before payment is made. Sometimes, if it is out-of-pocket, where refunds are necessary, you must present the item to the audit department to see and present receipts to back up such purchase in order to get a refund. At the levels of both the dean and head of department, these processes are put in place to ensure judicious use of funds and to provide for high accountability" **(State polytechnic, top management).**

A member of top management at the state polytechnic explained the participation of the governing council and the academic board in the accountability process:

"Well that is a good question but as I have told you, there is budget provision, you spend according to the budget, and you buy only things that are budgeted for and are receipted for... so you have these kinds of control and since the governing council management committee and academic board are overseeing all expenditures, there is control and of course where you have control, you have accountability" **(State polytechnic, top management).**

The state polytechnic has an internal control department for purpose of accountability as asserted by a top management:

"The internal control is set up by the school management itself. That is a different department on its own that is headed by the Chief Internal Auditor. So we call it Audit Department. It's a different department from Bursary". **(State polytechnic, top management)**

A former member of top management recounted his experiences regarding the internal control associated with accountability during his tenure and described accountability as an important evaluation process:

"It is a very crucial one, accountability is very important; transparency if you want to be a very good administrator, to lead an institution, transparency and accountability are very important. What I did, my own standard of administration it is the fact that I know the limits of my power that is given to me by the governing council because the governing council superintends the Chief executives; but there are a body of politicians approved by government and forces of high integrity I superintend over. I have my approving power but anything above that, I will have to go through the management committee and anything above that goes to the governing council. Once you know the various tiers and layers as enshrined in the financial regulations, you try to be accountable" (**State polytechnic, top management**).

At the federal polytechnic, a member of top management explained the judicious usage of allocated resources thus:

"You know, even in nature, it is when you have surplus that you become extravagant, if you don't have enough, common sense dictates that you must manage what you have. So as much as possible, we manage the available funds efficiently and effectively by prioritising and ensuring that our major activities don't suffer" (**Federal polytechnic, top management**).

Furthermore, he emphasised that there is also a biannual assessment:

"we compare our goals at the beginning of the year and see how much has been achieved and inform management as regards challenges and constraints encountered when goals have not been achieved. This is to get help most especially if the unachievable goals are due to insufficient funds".

The federal polytechnic applies a *"Responsible accounting system"* as a measure of accountability. One interviewee explained how the system operates among the faculties' and departments in the institution:

"The institution has what we call ' Responsible Accounting' some are through level of authority devolved to HODs, Deans, making them responsible for certain level of expenditure. When expenditure is to be incurred and it falls within an officer's frame of responsibility the officer will be asked to endorse it before it is incurred. And when it is incurred, and the job has been done, he/she must certify the job has been done satisfactorily before payment is made" (**Federal polytechnic, top management**).

An interviewee explained the process of record keeping and accounts to ensure accountability thus:

"Well, technically, we have our accounts with banks but we have records showing what we have with the banks at anytime. These are the ones we keep here, as well as some payment

evidence that has been made, and so we then have file jackets for payment vouchers, general ledgers, cash-book, receivable booklets, these are the document supporting the entries we are making into accounts. So these are some of the records we keep and we interface with the banks on daily basis to know how much we have at any point in time" **(Federal polytechnic, top management).**

Moreover, a member of top management explained the roles given to faculties and departments in the execution of expenditures and how accountability was achieved as follows:

"We have an open system where heads of departments are involved in procurement of goods and services, so all I do is to make sure the internal audit performs its work and gives us recommendations that we are having a fair price for the service of goods. This is done and even where contracts are above the approval of the heads of departments, because my administration even extends to the authority to approve some levels of expenditure to the heads of departments and deans of schools. Before then, it was centralised at the top management level, but I found that very cumbersome and we educated everyone and we achieved effective decentralisation. And since then we are doing very well. So in terms of procedures or the structures we have put in place to ensure accountability, I think these are some of them" **(Federal polytechnic, top management)**

6.5.1.3 Impress Accounts

"But for the running of the school, "impress account" is provided whereby we will buy whatever we want to buy and reimbursements are made. We have impress account for petty items and daily running of the school" **(State polytechnic, lecturer).**

"The impress amount is not adequate. N3, 000 is less than $20. What is done is that if I overspend, I can then request reimbursements. Some of us use our personal money to some extent. The procedure to reclaim money is at times very rigorous and you may not even get the refund at all due to cumbersomeness of procedures" **(State polytechnic, lecturer).**

An interviewee explained the procedures and purposes of impress accounts:

"Yes we have what we call an impress account which we retire every month and then you apply. That impress amount, you have to justify it; attach receipts. There's a limit. For my school it's N8,000 per month to cover other things. For the official vehicle, there is an amount they give. Actually, it's just to buy things that are not available in the central store where most stationery is supplied. When you have a meeting and need to entertain, as in the monthly board of school meeting, which involves all academic staff, there is a specified

amount per head. This meeting is serviced by the polytechnic, from our budget. So actually whatever you spend within your budget limit is refunded" **(State polytechnic, lecturer).**

At the federal polytechnic, another interviewee explained the rules governing the impress account:

"We have an 'impress account' system for all the departments and ensure that when money is released to you there must be evidence that you actually spent the money for what it was meant for. Well, you know that as a government institution, you must account for whatever is given to you. There is fund monitoring and any responsible officer will ensure he/she accounts for what he/she has been given" **(Federal polytechnic, top management).**

6.5.1.4 Auditing of Accounts

"This is an additional measure to the internal control mechanism, to ensure accountability; apart from the statutory ones adopted by the government. This is because it is not feasible for either the Rector or the Bursar to think that all expenditures must be known but once the officer assigned to oversee a function is satisfied, it is OK. The only thing we can do is to send an auditor to verify the job that has been done to ensure that the control mechanism put in place is functioning and to be convinced that there is value-for-money and that resources are being used efficiently and effectively" **(Federal polytechnic, lecturer).**

In addition, an interviewee expressed the roles of the auditors in the accountability process as follows:

"We have external auditors. A new external auditor has just been appointed to audit the 2008 accounts. The 2007 audit has just been completed three months ago and we are waiting for the auditor to submit the final reports. In terms of accountability, we prepare our financial reports based on this" **(State polytechnic, top management).**

A member of top management expantiated the accountability procedures as follows:

"Emmmm…apart from the internal structures, the audit and so on, we also have the external audit… We also have our external Auditors who audit the accounts of the polytechnic as a requirement on an annual basis, which we do regularly. For example, they have finished the one for 2008 and they are to embark on 2009 anytime now. All these steps are to ensure accountability and to ensure there is no wastage and to make sure the funds allocated are used judiciously" **(State polytechnic, top management).**

At the private polytechnic, a member of top management explained the process and outcomes of the auditing procedure as a measure of accountability over the years:

"The bursar prepares monthly financial reports and presents these to the president for scrutiny. At the end of the year, he prepares final accounts and the auditor will be invited to audit the accounts to see if there are some malpractices and so on and so forth. To the best of my knowledge, since the inception of the institution, there has not been any financial misappropriation. The accounts have been intact and the returns have been encouraging since inception because apart from the initial period, the polytechnic has not made a loss in recent years. **(Private polytechnic, top management).**

In sum, the accountability at the federal and state polytechnics was to their respective local governments, while the president was in full control of the private polytechnic. However, all the institutions' used external auditors.

6.5.2 Internal Resource Allocations

The internal resource allocation process is concerned with how institutions distribute financial resources to their faculties and departments and is also concerned with the consistency of implementation. At the federal polytechnic, several respondents revealed that centralised models of resource allocation were in practice at faculties and departments, which were not allowed to have control over their accounts, as no accounts were opened in their names. Several respondents claimed that there was no consistency in the implementation and indicated that the allocation was characteristic of the overly bureaucratic system. Here four themes were identified from the interviews:

- Process of Allocation;
- Allocation Model;
- Allocation Implementation; and
- Incentives.

6.5.2.1 Internal Resource Allocation Process

At the private polytechnic, there was no internal distribution of funds to any unit as the proprietor dictates the movements of funds within the institution. An interviewee attested to this as follows:

"We don't have an internal resource allocation for now. The bulk of the money is being invested on the permanent site, so resources are not being allocated to any sector right now. Any department that needs anything like stationery or any other thing, they prepare the

paperwork and the president approves and buys for that department but to allocate a vote for a department is not being done as at now" (**Private polytechnic, top management**).

Another member of top management supported this:

"Well, to the best of my knowledge, I wouldn't say that is in place. What we do is that for every department, they bring in their requests and these will be passed to the president for approval and once approved, funds would be released from my unit" (**Private polytechnic, top management**).

At the federal polytechnic, a member of top management explained the allocation process as it affected her unit as follows:

"Well, at the beginning of each year, we are asked to make a budget proposal for the unit as a whole. The budget will take care of promotions where vacancies exist, budget for personnel and then another budget for finance. We also have budget for refurbishment of equipment and furniture, while we have a central pool for stationery. Basically, our budget takes care of our needs in the year and it is central. When the budget is approved for the unit, we usually have a meeting of all heads of departments with the dean and then allocate based on the activities of each department. It does not mean that we share the allocation equally, the activities and need of each department determines how much each department gets and we now share the total funds allocated to the unit and each department administers what is given to it" (**Federal polytechnic, top management**).

Similarly, another lecturer explained the allocation process thus:

"Well, the departments are allocated funds by the College management headed by the Rector. The management determines the allocation to the school. On an annual basis, they send it to us to budget for how much we are going to spend on activities such as conference attendance by staff, short courses, students consumables, maintenance, entertainment, cleaning materials, furniture, office equipment and so on. So we submit our request for the year, they will deliberate on it and they will send to the dean's office the approved fund for the school. Thereafter, a meeting of all departments will be held to share the funds among the departments and the dean's office, adding into consideration the number of staff in each department" (**Federal polytechnic, lecturer**).

The lecturer however made it clear that these funds do not include capital expenditure. Such a request, when it is made, is always approved at the discretion of management.

6.5.2.2 Internal Resource Allocation Model

Even though there was no internal allocation process within the private polytechnic, the operations of the accounting system were centralised on the president as all expenditure must be vetted and approved by him before any money can be disbursed. An interviewee confirmed thus:

"No. For the fact that everything is being centralised - it comes directly from the president but one thing I can assure you is that we do not lack anything when it comes to funding. The moment we forward it to the appropriate quarters, they ensure that they supply us whatever we need" (**Private polytechnic, lecturer).**

At the state polytechnic, a centralised model of allocation was also in place, but funds were being distributed to heads of units according to budget approvals.

"The *allocation is central. Central in the sense that all areas of resource allocation, including capital and recurrent, are done centrally, and whenever any school or department requires anything for its advancement and growth, resources are made available to make this happen. Sometimes also, we approach the state government for funding but like I said that it is central and each year, each school prepares its own budget which is defended, and the allocation is done to cover the areas that are finally approved"* (**State polytechnic, lecturer).**

The former rector shared his experiences regarding centralised allocation of resources thus:

"The Allocation System, to the best of my knowledge, during my time - I don't know whether it has changed - was not centralised; because I was aware that we had departmental budgets, schools, works and services, all units including ventures, school of Part time studies then, their directors control their budgets. So much so that if I want anything from the school of part-time studies e.g. I want to buy a car, I will lobby the director to get a vote but it's not for me to sit in my office and say bursar take N4million out of director's budget and so for department, if mechanical engineering wants to buy electrodes, he would raise a memo, come for approval - and he gets them. It is not so central but I don't know if it has changed but if it has, it will be so unfortunate because I am not an advocate of central allocation" (**State Polytechnic, former top management).**

However, an interviewee at the state polytechnic defended the action of management on their centralised model of resource allocation.

"Well, you cannot give money to the departments or the schools, otherwise there would be wastage. The funds are centralised. There is monitoring of expenditures, so if you have requests for anything, you bring it, they look at it and approve the purchase. Each school and department has its own budget and you don't hand the allocation directly to them to spend,

otherwise there may not be adequate control. For control purpose, the funds are centralised. This enables funds to be allocated as the need arises and enables one to spend according to the budget. Of course you may require emergency funding but that notwithstanding, it has to be approved either by the governing council or management committee and the academic board" **(State polytechnic, top management).**

In a similar response, a member of top management at the federal polytechnic defended the centralised model of resource allocation.

"The bursary does this to monitor the movements of funds and to ensure that whatever information is given by the head of units as regards such units' allocation is not exceeded" **(Federal polytechnic, top management).**

6.5.2 3 Internal Resource Allocation Implementation

"There is nothing like that. Like I told you earlier, funds are kept centrally. Anytime we need to purchase any item, we make requisitions but to be honest with you, sometimes, we were told there was no money and there is nothing you can do. It is very frustrating" **(Federal polytechnic, lecturer).**

Another lecturer confirmed money was not received in bulk but on a line basis:

"When we have projects, the bursary unit releases funds after being approved by the coordinator".

To another lecturer, the most unfortunate thing is that the money when allocated is seen on paper not physically.

"As I am talking to you, the votes for this academic session have not been allocated to my school to share among our departments and this is July. This has been usual practice by the management for quite some time now" **(Federal polytechnic, lecturer).**

A member of top management also explained that no bulk amount of money was given to any unit for implementation of resources allocation thus:

"No, when the budget for the whole school is approved, each unit will be informed about its own allocation and when we have such a document, based on that, we now share to our departments and then inform the bursary about how much each department has been allocated, so from thereon, each head of department will spend his/her department's allocation by liaising with the bursary" **(Federal polytechnic, top management).**

A lecturer explained the purposes of the internal allocation as follows:

"Every school is allocated votes for the running of the programmes in each department. The votes also cover things like furniture, maintenance of infrastructure, running expenses and staff sponsorship to workshops and conferences" **(Federal polytechnic, lecturer).**

Another lecturer expressed the implications of a centralised model of resource allocation as follows:

"No, it is interesting to let you know that the money does not come at once, it comes periodically and this delays the implementation of the budget. This financing system cripples a lot of objectives to be realised at school and departmental levels. To me, this is not very good. All money is kept with the bursary. We only know how much has been allocated to us on paper. Based on this, we spend the money according to our budgets. I don't know why they don't give us the allocation all at once, probably; they believe we can't manage money or that there should not be a separate account. But the belief is that the money belongs to the unit but it is not every time we exhaust the money and not every time the money is given to us. There are a lot of things that happen due to the nature of how the money comes in. We are not fully in control of the money allocated to us" **(Federal polytechnic, lecturer).**

It was the same story at the state polytechnic. Several respondents indicated that the internal resource allocation model was centralised:

"They don't give money en block but they give as requested and based on what you have left in your budget. There is, however, a rat race among departments and staff on the spending of the allocation because if you are not fast enough, others will go before you and the funds will be exhausted before you get there. But the school is still looking to take care of that" **(State polytechnic, lecturer).**

6.5.2.4 Incentives

This represents another theme associated with the internal resource allocation at the polytechnics. Responses showed that heads of units who generated revenues for the institution's coffers were not satisfied by the lack of motivation from management. At the federal polytechnic, some respondents interviewed expressed their disappointment as follows:

"But the unfortunate thing is that such money is paid directly to the institution and not the school. This has become a serious concern to me as the Dean and each time, I have pleaded with management that even if you are not giving us all that has been generated through our school, give us part of the money to enable us refurbish some of our equipment to enhance our practical teaching. Well, I will continue to put pressure maybe management will listen.

What I expect is that such money should be used to improve the standard of our workshops" **(Federal polytechnic, lecturer).**

Another lecturer at the federal polytechnic expressed his feelings as follows:

"Even, what is generated internally by the schools it is deposited in the central purse of the institution. This shouldn't be because this is curtailing the freedom of schools as regards productivity of staff to the progress of both the school and the departments" **(Federal polytechnic, lecturer).**

Another lecturer expressed his anger on this issue, thus:

"Even, as the dean, I know some courses we can run that will bring money to our various departments but due to some constraints, such courses may not be approved, and besides, when you think such monies will go to the institution's bank account rather than the school's account, you decide to keep quite. Nothing is encouraged" **(Federal polytechnic, lecturer).**

At the state polytechnic, the top management who generated revenues through capitation fees expressed disappointment similar to his federal polytechnic counterparts:

"As the medical centre is an integral part of the Polytechnic, the cheque is in honour of the polytechnic, the central purse and unfortunately, we are not even benefiting from it because they believe we are doing our jobs. When I made a case for an honorarium on behalf of the medical centre, the bursar of the institution felt the money coming in was not enough for us to get anything. That was demotivating. That is why I have not been encouraged to source for more enrolees, because if I do, nothing comes to me so of course it has affected the patronage of this medical centre" **(State polytechnic, top management).**

A lecturer explained the bureaucracy associated with consultancy money thus:

"We get consultancy work where we carry out some laboratory work for some sites, when they pay, they pay the polytechnic. But to even access the money to carry out the work that the money is paid for, the bureaucracy is too much. Not only that, but although a percentage of the profit is meant to come to the department, everything goes to the central basket. So there is no way you can access the money. Unless this situation changes, there is no way I can generate and use the money generated for the department" **(State polytechnic, lecturer).**

In sum, there were tensions between centralised and decentralised models of internal resource allocation. While the top management was in favour of the former, most respondents described the model as highly inconsistent and bureaucratic in nature. However, the

responses did not indicate any better resource allocation model; most respondents merely called for transparency, incentive motivation, and more participation at the faculty level.

6.5.3 Information Communication Technology (ICT)

In this study, one theme digital technology was derived from the interviews.

6.5.3.1 Digital Technology

The respondents regarded ICT as facilitating the effective transformation of input, but regretted that polytechnic institutions are yet to enjoy the benefits of digital technology. Several respondents at the federal polytechnic viewed this criterion as negative. Several interviewees explained how difficult it was for the students to gain practical knowledge, due to the lack of internet-connectivity, computers, and modern lecturing materials in various departments. Most of the interviewees unanimously agreed that without access to the latest technology, it would be very difficult to produce quality graduates. An interviewee described the dissemination procedures at the institution as; the use of memos, notice boards, intercom, and telephones. We also make use of the internet on computers, communicating via emails and we also print bulletins when necessary to make sure that information reaches the entire institution community. Equally we make use of the institution's website to enable information to reach the outside world. Several lecturers lamented the absence of internet connectivity in their departments:

"We don't have access to the internet. If you come to my department - civil engineering there is nothing good to talk about. We do have a lot of issues to discuss about if polytechnic education is to progress in Nigeria" **(Federal polytechnic, lecturer).**

Even now that we are in the "computer age" I don't think we can count up to five polytechnics in this country that are making use of the wireless computers for educational services in their various institutions" **(Federal polytechnic, lecturer).**

In reference to the library, an interviewee confirmed that the polytechnic is yet to achieve substantial progress in the areas of information communication technology and the institution is working towards these achievements.

An interviewee lamented the lack of IT facilities and also discussed how the purchase of laptop was secured for individual lecturer:

"A much greater issue of concern is the enhancement of IT knowledge. The school is doing something about that. The Digital Park is there. The building is being completed. The facilities will soon be installed. Many of us - lecturers - have our computers, which we have

bought ourselves as the school provides no money for us and we decided not to wait for them to procure computers for us. However, the school tried to help through an arrangement they had with OMATECH, whereby you pay an initial N30,000 for a brand new laptop and a further N5,000 will be deducted from your salary till you pay up what is left. We have proposed that every lecturer should also have his own desktop computer in his office with internet connectivity" **(State polytechnic, lecturer).**

Another interviewee expressed the importance of information technology and suggested that the students' practical knowledge should be enhanced in order to be productive:

"Also, the issue of ICT is of equal importance. We cannot just sit down and look at things moving. It pains me seriously that mobile phones came to Nigeria about 7 years ago, which to me should have become a reality long time ago. There is nothing wrong if polytechnic students are developed technically and manufacture a Nigerian made handset funded by the government. This is the type of practical knowledge I am referring to. Even if the production is high in terms of cost, let the government subsidise it and make sure we sell the product. This will ensure we are starting from somewhere and we can only improve on it" **(State polytechnic, lecturer).**

An interviewee made suggestions regarding the provision of modern communication equipment for effective learning:

"Yes, yes. We need... except for the offices of the Heads of Departments, there are no computers which means every lecturer has to procure their own by themselves. The laptop I am using now was procured by me. I feel that the school should make a computer available to every member of staff. Another thing I think we should have, which is concentrated at the laboratory is a projector, which I think is essential for adequate lecturing. I am looking forward to a situation where we will have one or two projectors in a department, as the ones we have in the laboratory are grossly inadequate. If it is in an office that is accommodated by a member of staff that will make for a more conducive learning environment" **(State polytechnic, lecturer).**

At the private polytechnic, it was a different story, as a few of the respondents spoken to indicate there were adequate computer facilities and internet connectivity. An interviewee said that this should not be a surprise as the private polytechnic was an offshoot of a computer college.

"The computer facility as you can see, every year, we bring in new systems. In technology there is always change and we follow the trend of that change. The president of the

polytechnic is a man that is well-informed as regards the change in technology. Every session we upgrade the systems from one Pentium to another. All the systems we are using presently are Pentium III systems **(Private polytechnic, lecturer).**

"As for ICT, we don't have problems in our polytechnic as all these facilities were already in place before we became a polytechnic. Don't forget that we were once a computer college" **(Private polytechnic, lecturer).**

In sum, the three institutions are yet to be conversant with the modern digital technologies that enhance the institutions' effectiveness.

6.6 Goals derived from the interviews and focus group

The goals derived are not part of the criteria initially evaluated, but emanated from the interviews, as the respondents regarded them as enhancing effectiveness and societal confidence on the polytechnic institutions. The derived goals conform to the submission of (Yutchman and Seashore, 1967, Price 1972, Campbell, 1977) as they are of societal interest and highly beneficial to human existence.

As noted by Price (1972, p.5), a derived goal approach does not use the organisation as the basis for evaluating organisational effectiveness but instead uses the society. They are; the upgrading of polytechnics to university status, eradication of corruption, establishment of unified funding council for tertiary institutions, and solutions to address discrimination against the polytechnic graduates, inadequate and the irregular supply of electricity that is not encouraging investments. Most of the respondents noted that these goals can be achieved through government efforts as they are beyond the powers of the various polytechnic institutions' academic leaders.

6.6.1 Upgrade of Polytechnics to University Status

One interviewee noted that the upgrading of the polytechnics to the university status would no doubt bring about equality, most especially in the area of discrimination against polytechnic graduates in the labour market.

"The Government has come up with a policy I believe will work. That is to allow polytechnics run degree programmes leading to the award of Bachelors of Technology (B. Tech) without phasing out the National Diploma (ND). In other words, the polytechnic should continue in the line of production of technical manpower and the National Diploma will be the entry qualification into the B. Tech. This will satisfy the understandable desires of school leavers to acquire a university degree. So the HND is to be phased out. I think sometime in the late 80s

or early 90s, a good number of polytechnics, virtually all the polytechnics in the UK converted to degree awarding universities. I think it is a natural and welcome development" **(Federal polytechnic, top management).**

6.6.2 Corruption

An interviewee expressed the potential dangers within the higher academic environment if corruption was not attended to in Nigeria.

"Corruption is in the land. The government meant well, the law is very clear and simple but the people employed to implement it are corrupt. Until corruption is fought in every sector, not just the police, not just the bank or ministry; in every segment of Nigerian administration, including education, the country may find it difficult to move forward. Every segment of our country particularly the public sector is very corrupt. To obtain one particular document, maybe your accreditation paper, you have to bribe some people along the way" (**Private polytechnic, top management).**

A member of top management at the private polytechnic gave an in-depth account of corruption foundation thus:

"*None of the religious faiths we have in this country accept or preach corruption. In Islam, the Quran forbids it. In Christianity, the Holy Bible forbids it as well. Even the traditionalists, the religion we all inherited from our forefathers as Nigerians and Africans forbade corruption. But politically, corruption was alien to Nigerian and African culture. It was imported in the days of the colonial era. An average Nigerian or black African man relates to his fellow man on a level of 'he is my brother, father, sister'. The advent of political era saw the value of culture erode"* (**Private polytechnic, top management).**

He went further to give account of corruption in higher education thus:

"*Now, as it affects education, a lot of parents want their children to make first class at all cost, by bribing the Heads of Departments (HODs) and even the Deans. Not only that, the corruption we are talking about starts from the admission process. When parents discover their child doesn't have the mental prowess to gain admission into the school, they pay mercenaries to do the admissions examination on behalf of their children. The child will gain a 'fake' admission, attend university and at the end of the course, the child's performance is*

found wanting and then the parent is ready to 'see' the HOD saying 'I just want this boy to pass this course' and because the lecturers are not properly paid, they are "hungry and have need for having the latest cars and have a good life, that is where corruption" sets in. Everybody complains of payment and the conditions of salaries and when conditions are not commensurate to the societal needs of a man, he will definitely look the other way. Nigeria needs to bring back our old culture of acceptance of our values like contentment; to be contented with what you have" (**Private polytechnic, top management**).

Another interviewee emphasised on the need for political will as a way to curb corruption in Nigeria:

"To eradicate corruption, our leaders must have the political will: Furthermore, the level of corruption in our society does not encourage our youths to study hard. There's hardly a day you read a newspaper that you don't find that this amount of funds has been misappropriated or that the National Assembly is investigating this fraud or that and so on. Reading this all the time can bring disillusion to a growing youth. These youths turn into armed robbers in order to make quick money. This is really sad" (**State polytechnic, lecturer**).

6.6.3 Discrimination against Polytechnic Graduates

An interviewee mentioned that those who are discriminating against the polytechnics graduates are novices who do not understand what polytechnic education is to a nation like Nigeria. Another interviewee elaborated on this, noting that polytechnic education embraces practical learning while the university embraces theoretical learning. In proffering a solution, the interviewee called for the integration of more practical knowledge at the university and more technical knowledge at the polytechnic. A case of a little bit to the right and a little bit to the left.

"The unfortunate thing is that Nigerians do not understand the role of polytechnic graduates. They more or less want to compare them to university graduates, whereas the syllabuses are not the same. Polytechnic graduates have more abilities on technical issues than their universities' counterparts and that is expected" (**Federal polytechnic, lecturer**).

"Yes, I think the major problem is that of politics, the dichotomy between the university and polytechnic lecturers on one hand and the university and polytechnic graduates on the other hand. Well, these problems are caused by the government. If the government addresses the issue, the politics will stop and there would no longer be discrimination within the labour market" (**Federal polytechnic, lecturer**).

A former top manager viewed the discrimination as having a long tradition:

"It has always been there. The only thing you can do, I tell the young boys that you are the only one that can decide what you want to do in life, if you want a polytechnic education, you know why you want it, if it is the university, you know why. If you go to the polytechnic because you cannot get into the university, then you have missed your way, decide what you want because there is discrimination for now which is very difficult to remove. Most in the civil service are university graduates and they would not want it to be otherwise" **(State polytechnic, former top management).**

A top manager at the private polytechnic explained the implications of discrimination against polytechnic graduates as follows:

"Also, because of the disparity between the Higher National Diploma, Ordinary National Diploma and Degrees, many parent are withdrawing their children from Polytechnics to private universities because at the end of the day they are looking at the end products; what will become of their children when they graduate from the polytechnics as against what will become of them when they graduate from universities. They don't consider the cost; they just go ahead and fund their children's private university education. That is what has affected the patronage of polytechnic education in Nigeria, whereas it should be the other way round. Many see the polytechnic education system as an institution of second fiddle. No parent or individual wants to spend so much money to train up a child to become second fiddle in this life" **(Private polytechnic, top management).**

6.6.4 Electricity

The issue of electricity in Nigeria based on the consensus of opinion has become a national disgrace. Few of the respondents spoken to described the inadequate and irregular supply of electricity as a major problem affecting development in Nigeria. An interviewee in a bitter complaint recollected the old days on the campus when it had electricity for 24 hours a day, which made vigorous study possible. Below are the supporting quotations on electricity by respondents from the interviews:

"The major problem is electricity. A lot of us want to read but the environment is not conducive. There is no electricity to power your laptop and the library services are as inadequate as there are no current textbooks in the library for you to do research. Essentially, there is a need for the government to make sure we have stable electricity. In Nigeria today, most people don't know how to operate a laptop. The laptop is also very expensive" **(State polytechnic, lecturer).**

"For a higher institution, I would not say it's OK because it is not convenient for us. As Mass Communication students, we need electricity for our practical and this is not always the case. As a private institution, there should be a constant power supply for the students. This is an aspect that needs improvement" **(Private polytechnic, focus group).**

"Nigeria is short-serviced by Energy. For years now, the economy of this country has been going down because we do not have an electricity supply. Companies and providers of services are now moving to neighbouring countries that have an uninterrupted power supply. Nigeria has not enjoyed a good supply of electricity? It has been the use of generator sets" **(Private polytechnic, top management).**

"Lack of electricity hampers lectures in classes, practical in laboratories and also research work. It distorts the whole operation of rendering services. This is a major issue that needs serious attention" **(State polytechnic, lecturer).**

6.6.5 Unified Funding Council

One interviewee suggested that for effective running of higher education institutes in Nigeria, the integration of regulatory agencies should be advocated so that the effectiveness achieved would not only benefit to the polytechnics but also other higher education institutions and to the larger society as a whole.

"But be that as it may, the various regulatory agencies too have not helped matters. We have the NUC in charge of universities, the NBTE in charge of polytechnics and National Commission for Colleges of Education (NCCE) in charge of NCE graduates. I think these agencies are not helping our educational system because as a result of their existence, they incur a lot of overheads in terms of spending. Personally, I would like to have, in Nigeria, a single regulatory body controlling tertiary education, and within this body, we can have sections for universities, polytechnics and colleges of education" **(State polytechnic, lecturer).**

Table 11: Similarities and Differences between Evaluated Criteria

Models/criteria	Similarities	Number of responses	Differences	Number of responses
Human Relations Model				
Staff Training and Development	Management support	1top manager 2 lecturers	Budgetary allocation	6 top managers 4 lecturers
	Self-sponsorship	4 top managers	Staff turnover	1 lecturer

			Career development	1 top manager
Remuneration			Discrimination	4 lecturers
			Negotiation	1 top manager 2 lecturers
Campus relationship	Positive relationship	1 top manager 1 lecturer 1 student	Conflict	1 top manager 4 lecturers
			Partiality	1 lecturer
Open Systems Model **Ability to Acquire Resources**			Government subsidies	8 top managers 1 lecturer
			Internal Generating Revenues	3 top managers 2 lecturers
			Allocation mode	3 top managers 1 lecturer
			Inadequacy of govt funding	8 top managers 1 lecturer
	Part-time Courses	3 top managers 2 lecturers	Guest house	1 non-academic
			Poly-consult	2 non-academic
	Fees	4 top managers 3 students	Tuition	1 top manager 1 lecturer
			Tuition fees determinant	3 top managers
			Mode of payment	2 top managers 2 students
			Capitation fees	1 top manager
			Ownership capital	1 top manager
			Printing and business centre	1 top manager
			Kind donations	2 top managers
			Financial donations	1 top manager
Physical	Hostel	Focus group		

Infrastructures and equipments	accommodation facilities	1 lecturer 2 students		
	Library facilities	Focus group 2 top managers 1 lecturer		
	General facilities	Focus group 1 top manager 10 lecturers 2 students		
Accreditation	Accreditation requirements	2 top managers 1 lecturer	Courses accreditation	2 top managers
	Accreditation types	1 top manager 1 lecturer		
	Accreditation funding	1 top manager 1 lecturer		
	Accreditation procedures	1 top manager 2 lecturers		
	Accreditation bodies	1 lecturer		
Rational Goal Model **Strategic Planning**	Long-term goal	4 top managers		
Internal Process Model				
Accountability	Internal control	11 top managers	Statutory requirement	4 top managers
	Auditing	3 top managers 1 lecturer	Impress account	1 top manager 3 lecturers
Internal Resource Allocation	Allocation model	3 top managers 2 lecturers	Allocation process	3 top managers 1 lecturer
			Incentives	1 top manager 4 lecturers
			Allocation implementation	1 top manager 5 lecturers
Information Communication Technology	Digital technology	7 lecturers 2 students 1 non-academic		

Source: Researcher

Summary

This chapter has presented a qualitative data analysis based on the Competing Values Framework (CVF) criteria evaluated in reference to perceived effectiveness at the institutions. The analysis was divided into three sections. The first explored the characteristics of the case study institutions in order to enable readers to acquire a basic knowledge of the research topic.

The second part analysed the findings from the data collected. Ten criteria of effectiveness were evaluated under the four models that made up the CVF. Within the scope of the human relations model, three criteria were evaluated; staff training and development, remuneration, and campus relationship. Staff training and development had support within institutions and five themes were identified comprising: budgetary allocation, management support, self-sponsorship, staff turnover, and career development. Remuneration was perceived to be poor and produced two themes, discrimination and negotiation. The campus relationship on the other hand was recognised as a way of building a good organisational culture and produced three themes; positive relationships, conflict, and partiality.

Under the open systems model, three criteria were evaluated; abilities to acquire resources, physical infrastructures, and accreditation. The abilities to acquire resources were geared towards internal generation of resources and had three themes; government subsidies which had two sub-themes, mode of allocation for subsidies, and adequacy of allocation to institutions; internal generating revenues which produced seven themes; Guest house, poly-consult, part-time courses, tuition fees which produced two sub-themes, tuition fees determinants, and mode of payment, capitation fees, ownership contribution, and printing and business centre; and donations which had two sub-themes, donations in kind, and financial donations. The second criterion was the physical infrastructures and equipment, which were very poor in the three institutions; this section had three themes, hostel accommodation facilities, library facilities, and general facilities. The third criterion was accreditation, which had a common evaluation processes but differed in terms of the courses accredited, producing four themes, accreditation requirements, accreditation types, accreditation funding, and accreditation of courses process.

The next component was rational goal model, which required strategic planning as practiced by the institutions, while long-term goals emerged as the theme. Three different goals were referred to by each institution. The goal of the federal polytechnic was to increase the programme at the institution through the introduction of maritime studies; the state

polytechnic wanted to become a computer compliant institution, while the private polytechnic's goal was to hasten the movement of the institution to a permanent site.

The final model was the internal process model, which had three evaluated criteria. The first was accountability as an organ of public trust, which produced four themes, statutory requirements, internal control, impress account, and auditing. The next was the internal resource allocation, which was bureaucratic and inconsistent and provided four themes: the allocation process, allocation model, allocation implementation, and incentives. The last was Information Communication Technology (ICT), which was very poor at the three institutions.

The third part analysed the derived goals that emanated from the interviews and focus group conducted with the participants. These goals were viewed as societal benefits related to organisational effectiveness. These differed entirely to the criteria evaluated by the researcher but are the goals which the participants considered as highly important in striving to achieve effectiveness within the organisations. This study however identified five goals; upgrading of the polytechnics to university status, eradication of corruption from Nigerian society, solutions to resolve the irregular electricity supply, stop the discrimination against polytechnic graduates in the labour market, and establish s a single unified funding council for tertiary institutions in Nigeria.

From this analysis, coding was done using many themes in order to find similarities and differences among the polytechnics under investigation. However, it was also discovered from the analysis that the perceptions of participants as regards effectiveness varied from institution to institution which actually made effectiveness a social construction. The next chapter will discuss the similarities and differences that emerged during the analysis and also the implications of the two research questions, as well as arriving at conclusions and recommendations, and referring to the limitations of the study.

CHAPTER SEVEN: DISCUSSION AND CONCLUSION

This research investigated organisational effectiveness in higher education with a focus on how polytechnics in Nigeria compare in terms of perceived effectiveness at achieving their missions within the higher education system. This was a qualitative study using triangulation comprising semi-structured interviews, focus group interviews, and documents as methods of data collection. The aim of the study was to evaluate the criteria that can contribute effectively to the missions of polytechnic institutions in Nigeria based on the Competing Values Model developed by Quinn and Rohrbaugh (1983).

This chapter presents the conclusion, recommendations and final comments and discusses the research contribution of the study while identifying areas of further research.

7.1 Discussions

The discussions are based on the findings from the previous chapter.

7.1.1 Effectiveness as a construct

Most of the investigations on organisational effectiveness in higher education mentioned in the literature review were based on a quantitative methodology (Cameron, 1978, 1981, 1986, Lysons, Hatherly and Mitchell, 1998). The conclusions of different studies however confirm that organisational effectiveness in response to theoretical and practical pressures has evolved differently according to whether it was based on a construct or a process perspective, which comprise several models. Further observation revealed that most of the organisational effectiveness studies were based on universities in developed countries.

In contrast, the scope of this study has been limited to an exploratory case study in order to better understand the challenges being faced by polytechnics and gain a deeper insight into the stakeholders' concerns about their future as viable training institutions.

Ten criteria which could enhance the perceived effectiveness of polytechnic institutions in Nigeria were evaluated; namely staff training and development, staff remuneration, and campus relationships under the human relations model; ability to acquire resources, physical infrastructure and equipment, and accreditation under the open system model; strategic planning under the rational goal model; and accountability, internal resource allocation, and information communication technology under the internal process model. These criteria were discussed within the Competing Values Framework (CVF) of Quinn and Rohrbaugh (1981, 1983).

This study focussed on two questions:

1. **How do the polytechnic higher education institutions compare in terms of perceived effectiveness in achieving their missions within the higher education system?**

2. **What goals can be derived from the participants' interviews that relate to perceived organisational effectiveness?**

The next section presents the thematic analysis, starting with the human relations model.

7.2 Human Relations Model

The main concern of organisations under this model is how to increase employees' effectiveness in order for them to become more valuable and encourage them to work in harmony, as members of the same family, to achieve organisational goals. The model is internally focused and flexible.

Three criteria were evaluated under this model, namely staff training and development, staff remuneration, and human relations on campus. The respondents recognised staff training and development as being an important criterion in every organisation including those in higher education. Quality staff is needed to produce quality graduates and training and development ensure the realisation of this objective.

7.2.1 Staff Training and Development

Staff training and development refers to the degree to which the managing staff at each polytechnics is involved in human resources management and how the staff is motivated in terms of training and development which is seen to be an investment in enhancing effectiveness and ensuring the success of the polytechnics. Respondents were asked to speak from their own experience with regard to their organisation's position on training and

development. Five themes were identified to serve as a basis for comparison namely budgetary allocation, management support, self sponsorship, staff turnover and career development.

At the federal polytechnic, respondents were not satisfied with training and development provision which was limited due to budgetary constraints and inadequate government support. Respondents noted that only members of staff who were covered by government subsidies were allowed to go on training. The responses given by respondents from the state polytechnic were along similar lines as there is dependence on budgetary allocations from the state government, but positive level of satisfaction with the policy on training and development was recorded in this case. As asserted by a respondent, the policies on staff training and development were managed very well as funds were provided from the central vote.

At the private polytechnic the issue of training and development was not a concern of the management as the institution did not fund staff training and development.

With regard to support from management, there was consensus among the three polytechnics that training and development of the staff was supported. At the public polytechnics such support may or may not include financial sponsorship. At the private polytechnic only moral support was given from the management. According to one interviewee, the management was very liberal in allowing staff members to go on training as long as they kept their lecturing commitments.

Furthermore, there was consensus in the three polytechnics regarding the fact that staff members were encouraged to embark on self-sponsored studies on a full-time or part-time basis, both locally and overseas. At the federal polytechnic, a top management official confirmed that members of staff were allowed to take study leave with pay in accordance with the federal civil service conditions. However only a few of those interviewed reported using their own resources to fund their own training under the self-sponsorship practice, which is not helping the system. An interviewee pointed out that the result of such training almost inevitably led to staff turnover as such members of staffs tended to look for better jobs after completing their training.

The last theme covered in this section was career development. At the federal polytechnic, a top management member of staff explained the importance of training, noting that before a staff member could progress from a particular position to another, especially if such a move affected middle and top level staff, evidence of seminar and conference attendance become mandatory. No such requirement exists at either the state or private

polytechnic. At the private polytechnic, the decision on whether a staff member is promoted rests with the president, who is the proprietor of the polytechnic.

The findings were similar to Nyaigotti-Chacha's (2004, p.7) who asserted that in order for both academic and non-academic staff to be more effective and efficient on their jobs, training and development must be part of the institutional agenda. Staff must be made to attend workshops, seminars, conferences and symposia that are relevant to their disciplines and those that will be beneficial to the progress and development of the institution. Thus, out of the three institutions, the public polytechnics were the most positive on training and development even though they were limited by budget constraints, while the private polytechnic was the most negative in terms of perceived effectiveness in staff training and development.

7.2.2 Staff Remuneration

Staff remuneration was another criterion which drew the interest of the respondents and they complained bitterly about the poor remuneration being paid to them. The interviews generated two themes: comparison and negotiation under remuneration. Most of the interviewees who came from the public polytechnics were very concerned about the disparities between their remuneration and the wages and salaries of their university counterparts which are much higher. Whereas public polytechnic staff salaries and wages are as set down in their respective civil service conditions, respondents at the private polytechnic said that their remuneration was negotiable and the final decision on how much a staff member gets paid rests with the president of the polytechnic. However, most of the interviewee felt dissatisfied with their remunerations.

Sutton and Bergerson (2001) maintain that an institution must examine all means at its disposal to ensure that its mission is being supported by members of the campus community, including members of the faculty if the mission driven measure is to ensure quality of service. They assert that one way for an institution to achieve its mission is adequate compensation to faculty members. This must be considered as an important factor in achieving institutional goals and in order for the institutional policymakers to develop an agenda for the new decade. Institutions must continue to ask themselves what kind of institutions they want to be and how they could achieve their goals. According to Sutton and Bergerson (2001), ensuring adequate compensation for faculty members is an important management tool that can be used by an institution to increase its faculty productivity, become cost efficient, and improve public perception (p.14).

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The findings of this study regarding remuneration issues conform to the findings of studies carried out by Sutton and Bergerson (2001), Saint et al. (2003), and Enders (2007). Sutton and Bergerson (2001) distinguish between the single salary schedule, based on an officially specified salary for each academic rank which includes a fixed schedule of salary steps within each rank and a normal time-in-step specification for each salary step; and a contract salary system has each faculty member negotiate his/her annual salary with the employing institution. A contract salary is also referred to as merit pay (p.25). While the public polytechnics employ the single salary schedule, the private polytechnic employs the contract salary system. In support of the contract salary system, Enders (2007) pointed out that private institutions generally recruit their academic personnel from public institutions but operate on the contract system for faculty appointments (p.14).

In the same vein, Saint et al. (2003) noted that there were many difficulties being faced by staff in higher education institutions in Nigeria and pointed out that one of them was the relatively low salaries given in the past decades and the diminishing financial attraction of academic employment in comparison with other employment opportunities (p.15).

Enders (2007), comparing the standards in developing countries with international standards, observed that academic salaries are very low while professional remuneration has never been adequate (p.14).

Sutton and Bergerson (2001) indicated that the behaviour of faculty staff can be influenced by absolute and relative levels of faculty compensation, and such an influence can be negative, positive, and neutral in relation to the missions of the employing institution (p.17). The results of this study showed that the participants' perception with regard to their remuneration was that they are grossly inadequate.

7.2.3 Campus Relationships

Staff relations are crucial to the success of all organisations and any effective leader must be able to instil the organisation's ideals among the staff. Several interviewees recognised the importance of human relations. Three themes emerged from the interviews: positive, conflict, and partiality relationships. At the federal polytechnic, most respondents described the relationships on campus as very cordial. Some respondents described the management as able to listen. An interviewee perceived relationships on campus to be peaceful, while a student respondent explained the tug of war type relationship between management and the students' body but nonetheless saw the relationship on campus as being cordial.

At the state polytechnic, relationships between staff members were described as perfect. Some respondents who recounted their life experiences viewed the campus as a family home where freedom and understanding reign supreme. To some, the campus is a place where stumbling blocks are removed through interaction and communication. One interviewee noted how useful it was that relationships on campus were cordial, given the breakdown which results when they are not. At the private polytechnic, relationships on campus were also described as cordial. Most respondents described the president as a good leader who listens to the problems of staff members.

The theme of conflict largely emanated from the misunderstanding between the management of the federal polytechnic and the Academic Staff Union of Polytechnics (ASUP) which had resulted into a court case. An interviewee expressed concern: *"well the relationship between the management and the academic staff union is not cordial"*. However, many respondents did not see such a misunderstanding as being unusual in higher education. While some respondents viewed it as normal in terms of inter-relationships, an interviewee likened it to a misunderstanding between a wife and husband.

The theme partiality also emanated from interview with a participant from the federal polytechnic. The interviewee voiced her disagreement with the decision of management to award the personal assistant of the rector to the detriment of the academic staff.

Overall, with regard to the theme campus relationships the participants' perception was that the relationships within the state and private polytechnics were more cordial than those at the federal polytechnic where internal processes left something to be desired.

7.3 Open Systems Model

The ability to generate financial resources is in conformity with the resource systems model developed by Yuchtman and Seashore (1967) and the open system model of Quinn and Rohrbaugh (1983) which emphasised the ability to generate resources from the external environment. Three criteria were evaluated under this model, namely: ability to acquire resources, physical infrastructure and equipment, and accreditation.

7.3.1 Ability to Acquire Resources

Three sub-themes emerged from the interviews, that is: subventions from the government, internal generating revenues, and donations.

7.3.1.1 Government Subventions

Institutions enjoying government funding are public higher institutions whose decisions are made by central governing bodies and whose funding is from public funds collected through taxes (Minxhozi and Perex, 2011, p. 204). Respondents confirmed that the two public polytechnics were funded by their respective governments (**appendices 6 & 7**). As noted by a respondent at the state polytechnic, ***"The state Polytechnic is a polytechnic owned by the State Government. The bulk of the money being used by the polytechnic comes through the allocation from the State Government".***

At the federal polytechnic, a respondent asserted that funding for the institution came from the Federal Government and was managed by the institution. Another interviewee classified the funding into four categories: capital grants used to finance capital expenditure, acquire long-term assets which are fixed in nature; overhead funds used to meet the day-to-day expenses such as purchase of diesel, petrol, stationery, travelling, and utilities; personnel grants used to pay salaries and wages of staff and, finally, specialised funds from the Education Trust Fund (ETF). The ETF occasionally funds institutions when the government feels it necessary to intervene in the financial affairs of tertiary institutions in Nigeria.

At the state polytechnic, funding was classified into two categories: recurrent and capital expenditures. At the private polytechnic, there were no government subventions. A top management official however explained that there were no private polytechnics in existence when it was decreed that government should fund higher education institutions and noted that a bill must be presented and assented to by the National Assembly to enable private polytechnics to enjoy government subsidies. An interviewee made it known that the Association of Private Polytechnics (APP) in Nigeria were pressurising the federal government to consider subsidies to the private polytechnics.

The findings are similar to those of the study undertaken by Teffera and Altbach (2004) who pointed out that the bulk of higher education funding is generated from state resources as 90-95% of the public higher education total operating budget is provided by the government through subventions (p.27).

Moreover, two sub-themes - mode of allocation and adequacy of allocation - were generated under the theme government subsidies. Most respondents felt dissatisfied with both the mode of allocation and the inadequacies of government subsidies. The mode of allocation was on line-item basis which does not give any control over the funds by the management of the polytechnics and does not allow transfer of unspent money from one year to the next.

The findings were in line with the findings of the study undertaken by Massy and Hulfactor (1993) who described line-item funding as one way by which the central

administration ensures that money allocated is spent according to purpose. It is a common response to the issue of accountability. However the method suffers from some drawbacks which include: unsuitability for a large institution as the number of items could be too large; difficulty to get a clear picture of items due to high incremental expenditures, dis-empowerment of local unit leaders; difficulty in controlling budget growth, and difficulty in persuading operating units to reallocate funds (p.30). In support of this argument, Nkrumah-Young and Powel (2008, p.250) note that the provider of funds to institutions considers every input detail, values them in terms of costing in order to arrive at a conclusive funding decision. The essence is to monitor and control expenses. This simply indicates that the central authority controls the system while the income and expenditure are approved on the basis of objects or activities. The operating units are responsible only for expending the funds according to the approval limits. Expenditure variance reports are most important as they provide monitoring information.

Furthermore, most of the respondents berated the inadequacy of polytechnic education funding by the government as technological institutions that are beneficial to the economy of the country. The findings were confirmed by a number of researchers (Aina, 2002, p.238; Akinsanya, 2007, p.71; Ayo-sobowale and Akinyemi, 2011, p.5; Altbach and Davis, 1999, p.3; Ibara, 2011; Jibril, 2003, p.495 and Omofonmwan and Odia, 2007, p.84) who pointed out that the inadequacy of funding in Nigerian higher education institutions has led to ineffective teaching and research, the need to search for alternative sources of funds by academic staff, neglect of physical facilities maintenance, deteriorated living accommodations, lack of instructional facilities, libraries, classrooms, and laboratories which have become dilapidated. All these things can be provided for only when funding is adequate. Davis and Altbach (1999, p.3) in their reaction to the inadequacy of public higher education funding commented that conditions of study have deteriorated due to financial constraints and this has brought dramatic conditions to Sub-Sahara African higher institutions. To them, *"funding issues loom very large in any analysis of African higher education"*.

Opposing the views on inadequacy of public polytechnics funding, the former top manager of the state polytechnic was of the opinion that if wastages were eliminated, government funding would be adequate if spent wisely and judiciously by the management of the polytechnics. According to him, corporate governance takes a huge amount of the allocation from the budget to the detriment of core teaching and core assignments.

7.3.1.2 Internal Generating Revenues (IGRs)

Respondents indicated that generating internal revenue is a major task as such activities are meant to supplement government subsidies. Seven themes emerged in this regard, namely: running a guest house, poly consulting, part-time courses, tuition fees, capitation fees, ownership contribution, and running a printing and business centre.

The federal polytechnic generated revenue through four sources: running a guest house, poly-consulting, part-time courses and fees; the state polytechnic through three sources: part-time courses, tuition fees, and capitation fees; while the private polytechnic through two sources: ownership contribution, and running a printing and business centre. The guest house was managed by a consultant on a lease agreement basis. The poly-consulting on the other hand generated revenues from locked-up shops, kiosks, spaces, consultancy services and conducting short term training ranging between 3 to 6 months. Poly-consulting was the major source of generating internal revenue for the federal polytechnic. With regard to part-time courses, the federal polytechnic runs sixteen courses within campus. None of the revenue comes from fees as the federal polytechnic does not charge for tuition.

At the state polytechnic, part-time courses bring in the majority of internal revenues for the polytechnic, while tuition fees and capitation fees are minor sources.

At the private polytechnic, the major source of revenue is tuition fees while the printing and business centre generates the least amount of revenue. The ownership contribution however represented the initial money provided by the proprietor as take-off funding for the polytechnic.

During the interviews two sub-themes emerged with regard to tuition fees: tuition and fees determinants and mode of payment.

At the public polytechnics, economic and political factors dictated the determinants of tuition fees while economic and competitive factors determined the tuition and fees at the private polytechnic.

Furthermore, at the private polytechnic, payment is on semester basis while at the public polytechnics payments are made on academic session basis. Also the tuition fees paid by students in the public polytechnics were very minimal compared to the huge fees being paid by the private polytechnic students.

It can be concluded that the federal polytechnic has more sources than the state and the private polytechnics but the state polytechnic can generate bigger revenues from part-time courses than the federal polytechnic and the private polytechnic. It must be noted however that income figures were not provided to verify these statements but it can be said that except

for the tuition fees which are highest for the federal polytechnic, other comparisons can be regarded as neutral in terms of perceived effectiveness.

7.3.1.3 Donations

Two themes emerged in relation to the theme donations: in kind and financial donations. At the federal polytechnic, most of the donations were in kind from different commercial banks in the country. There were no diversified sources of donations. At the private polytechnic, most respondents confirmed that the in kind donations came from the British Council and the Books Aid International. Moreover, the proprietor said that, as a gesture of appreciation by the community where the permanent private polytechnic main campus is sited the community donated an additional 200 acres of land to the 1500 acres of land purchased by the polytechnic. At the state polytechnic, financial donations dominated but, as noted by a top management official, "*I can tell you that in the past ten years, we have not received up to ten million naira (£40,000) in terms of donations.*" This means that those individuals and corporate organisations that are supporting polytechnic education in the country are negligible.

7.3.2 Physical Infrastructure and Equipment

Three themes emerged in relation to the theme physical infrastructure and equipment: hostel accommodation, library, and general facilities. The federal polytechnic ran a hostel for both male and female students located on the main campus while the private polytechnic ran a hostel for female students only located outside the campus. Most respondents were not satisfied with the conditions in the hostel at the private polytechnic. Complaints included: congestion, incremental increase of hostel fees, inadequate electricity, transportation problems to and from the hostel and the campus, disturbance through music and telephone calls at night. At the federal polytechnic, the complaints by the students included: congestion, no water closet to flush, no showers in some bathrooms, and a leaking decking. A student termed the girl hostel a "***death-trap".*** The state polytechnic remains a non-residential polytechnic. There were complaints by most respondents about the library facilities in the three polytechnics. Such complaints included: lack of space, and inadequate textbooks. The general facilities criteria were generated to encompass the numerous problems that applied neither to the hostels nor the library. The complaints made by respondents which cut across the three polytechnics included: inadequate classrooms; lack of space, good offices for staff,

seminar halls, laboratories and teaching aids; obsolete machinery, and the absence of a digital foundry for ceramic works.

The findings of this study were similar to those of a number of other studies (World Bank, 2006; Moja, 2000; Nwagwu, 2008 and Uche, Okoli, and Ahunanya, 2011). Reports by the World Bank (2006) indicated that there were shortages of practical resources to carry out experimental work in science and technology programmes which fact portrays the Nigerian system as under-equipped. Equipment needed for practical work was often either completely lacking or in a poor state of maintenance in many institutions, while the available equipment was generally obsolete and unfit for purpose (p.31).

Similarly, Nwagwu (2008) noted that library facilities and books are grossly inadequate while classrooms, classroom furniture, hostels, laboratories and workshops were non-existent or, where hostels exist, their situation is clearly unbearable because of congestion (p.91).

In terms of perceived effectiveness, the three polytechnics can be categorised as low in terms of physical infrastructure and equipment.

7.3.3 Accreditation

In Nigeria there is uniformity in the process of accreditation among the tertiary higher education institutions. Five themes emerged within this theme of accreditation, namely: accreditation requirements, accreditation types, accreditation funding, accreditation of courses procedures, and accreditation bodies. Most respondents gave vivid accounts of requirements for accreditation in their various institutions. Some of the requirements mentioned included: checking the records of the department for the last three (3) sessions; checking students' enrolment to make sure that they meet admissions qualifications; inspecting the facilities in place and the ratio of students to available facilities, the number of staff members, both technical and teaching staff, and the ratio of academic to non-academic staff and lecturers' academic and professional qualifications. A report is written by members of the accrediting bodies on which the decision to award approval or not is taken.

Some respondents described accreditation as falling under two types: the initial accreditation involving a new programme in a school or in the polytechnic; and the full accreditation which takes place after two years of initial accreditation. In the former case the NBTE is invited to come and inspect whether facilities meet the minimum requirements to start the programme. In the latter, the NBTE acts as a facilitator because other lecturers from

other polytechnics, personnel from the industries, universities and the specific professional body depending on the programme to be accredited are part of the team.

The accreditation funding is also of two types. When the accreditation team comes initially, the school bears the costs of food and accommodation while the honoraria as well as transportation for the team members are given by the NBTE. Recently the NBTE has become more vigilant about the ways their funds are used. When the NBTE visits a programme which is not accredited, the school will bear the total cost of accreditation. Another interviewee maintained that schools and faculties used the opportunity of accreditation to get more funds from the institutions in order not to fail accreditation. While the public polytechnics can boast of full accreditation for their courses, the private polytechnic falls short of 100% accreditation.

Furthermore, there are two bodies of polytechnics accreditation in Nigeria. The NBTE accreditation approval ensures that Higher National Diploma graduates will participate in the mandatory one year programme of the National Youth Service Corps (NYSC) and vice-versa, while the professional accreditation enables students to be granted exemptions in their respective professional examinations. The findings of this study were similar to Harvey's (2004) who asserted that the licence to operate is the essence of effective institutional accreditation. Other objectives include meeting specified minimum requirements such as: staff qualifications, students' intakes, learning resources, and research activities. Furthermore, it is also an obligation to produce potential graduates that meet implicit or explicit academic standards and professional competence. The focus of accreditation is based on infrastructural availability, especially the physical space, information technology and library resources and staffing. Moreover, accreditation can be perceived from the overall students' learning experience (p.7). Buttressing the importance of uniformity, Harvey (2004) asserts that it is desirable and important as courses are covered by the same contents which brought into effect equation of learning and understanding of the subject areas (p.10).

In sum, the public polytechnics can be said to have most of their courses accredited by the accreditation bodies unlike the case with the private polytechnic..

7.4 Rationale Goal Model

Strategic planning was the only criterion evaluated under this model.

7.4.1 Strategic Planning

Strategic planning, under this model was treated as a long-term goal theme. The three institutions made use of strategic planning in the pursuit of their long term goals. At the federal polytechnic, the goal was to introduce a new course "*maritime studies"* into the curriculum of the institution. The goal of the state polytechnic was to "*complete the digital pack"* that will provide inter-connectivity to the entire institution. At the private polytechnic the goal was to "*move to the permanent site"* of the institution as an off-shoot of the new university being established by the proprietor of the polytechnic. Both institutions are to be based on the same campus.

The findings of the study can be compared to Dyson (1992, p.3)'s and Hussey's (1999, p.1) findings. Dyson (1992) described strategic planning as a management process that promotes consultation, negotiation, and analysis in order to achieve effective decision making. Such decisions must contain features such as enduring effects, must be broad in scope, and very difficult to reverse. In higher education, such decisions involve the achievement of goals that are futuristic in nature with great impact on the proposed decisions and may involve huge capital investments. To Hussey (1999), such long-term goals can be perceived as innovative, creating change for its own sake, and moulding some trends in the direction management prefers. In sum, one can therefore conclude that the three polytechnics make use of strategic planning and are craving to be more innovative in their activities.

7.5 Internal Process Model

Three criteria were evaluated under the internal process model, namely: accountability, internal resource allocation, and information communication technology.

7.5.1 Accountability

Four themes emerged from the interviews under the theme of accountability, namely statutory requirements, internal control; impress accounts, and auditing of accounts. A number of respondents confirmed that there were statutory requirements put in place by government to ensure accountability in public polytechnics.

At the federal polytechnic, such requirements include the 'Procurement Act' which is binding to all Federal Government institutions and is a very comprehensive document which stipulates structures to ensure accountability and involves several teams of auditors, both from the Auditor General of the Federation Office and Accountant General of the Federation coming at different times to ensure compliance with accountability documents. At the state polytechnic, the statutory requirements include the submission of financial reports on a

monthly basis to the State Government through the office of the Parastatal Monitoring Office (PMO). Furthermore, the Auditor-General of the State Government visits the polytechnic on a regular basis to inspect the financial books of the polytechnic.

There is no statutory requirement relating to the private polytechnic. A number of respondents indicated that there was no law in place as the president was in charge of all finances and accountability was mainly to the proprietor.

The internal controls of financial activities were used by the three polytechnics as measures of accountability. The procedures involve the keeping of different accounts for record purposes. At the private polytechnic some of the books being kept include various receipts, ledger books for income and payments transactions, and payment vouchers. However, an interviewee maintained that as a measure for proper internal control, no money can be paid out except with the approval of the president.

At the federal polytechnic, some of the accounts being kept include payment vouchers, general ledgers, cash-book, and receivable booklets. In addition, the federal polytechnic made use of responsible accounting which showed the level of expenditure devolved to both the Heads of Departments and Deans of Faculties. The federal polytechnic also prioritised the activities of the polytechnic and compared planned goals with actual goals through assessment monitoring twice a year. This was to assess deviation and reasons why certain goals were not achieved. Internal auditors were also used for the purpose of accountability.

At the state polytechnic, internal controls involved asking for different quotes for the items to be purchased if cost was more than N100,000 (£400). Such purchases must be receipted and confirmed by the internal auditor of the polytechnic. Furthermore, purchases must be made in line with what was stated in the budget due to the line-item nature of the polytechnic budget. The governing council management committee and academic board are in control of all the polytechnic expenditures.

Respondents confirmed the usage of impress accounts for the purchase of miscellaneous items by the public polytechnics staff as a measure of accountability. The impress accounts were monies given to selected members of staff which must be accounted for before more money is disbursed. At the public polytechnics the amount was said to be inadequate. In a situation where a staff member spends more than the impress amount allocated, the excess can be reimbursed upon presentation of receipts but some respondents asserted that sometimes such excess expenditure becomes very difficult to refund. At the private polytechnic, the usage of impress account was not the norm.

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The three polytechnics made it mandatory for their financial transactions to be audited on an annual basis. At the federal polytechnic, a top management official maintained that the essence of external auditing is to verify the financial transactions that have been carried out to ensure that the control mechanism put in place is functioning and to ensure that there is value-for-money and that resources are being used efficiently and effectively.

In addition, the state polytechnic made use of the auditor's final reports as a guide in the preparation of the institution's final reports. Furthermore, other objectives achieved through auditing are to ensure accountability, non-wastages and to make sure the funds allocated are used judiciously. At the private polytechnic, basic objectives were to ensure no financial malpractices had taken place and to determine any financial loss. This point marked a clear distinction between the public polytechnics as non-profit institutions and the private polytechnic as a profit making institution. According to a top management official, the accounts were intact and the returns have been encouraging since inception as, apart from the initial period, the private polytechnic has not made a loss in recent years.

Ebrahim (2003) perceives accountability not only as a means by which organisations and individuals take internal responsibility for shaping their organisation's mission and values for opening themselves to public or external scrutiny, assessing performance in relation to goals, but also as a means by which individuals and organisations are held accountable for their actions (p.815). Put succinctly, it is a way for taxpayers to ask the managers who direct the affairs of higher education institutions to be accountable for what they do with the money received through government funding.

The findings of this study are similar to those of the study carried out by Lee, Hastings and Jung (2004) who indicated that statutory requirements over accountability revealed five critical implications, namely: authority to establish goals; the goals and how they are defined; performance measures establishment and how assessment can be carried out towards the progress of a goal; how can progress be tracked through reporting mechanisms and, finally, what enforcement mechanisms can be used to hold institutions accountable?

Furthermore, the basic statutory evidence in literature as regards the duties of the auditors are to report to the polytechnic management that the annual accounts were properly prepared and give a true and fair view of financial transactions within the institutions. Moreover, it is expected of the auditors to demonstrate extensive responsibilities, financial expertise, and skills of objective enquiry analysis and report.

The internal control as a basic necessity gives absolute assurance against any misstatement or loss. The control systems guide the daily financial operations and act as a confirmation of the effectiveness of the institutions' control systems.

As noted by Leville (2005), an institution of integrity is mostly accountable when its most important business was conducted openly so that how and well it routinely operates can be seen by its key stakeholders. While most respondents perceived accountability as an organ of public trust and, based on the fact that there is no best form of accountability in literature, evidence abounds that the accountability processes of the polytechnics were basically internal that cannot be seen as achieving a desirable perceived effectiveness in the achievement of their mission to the satisfaction of their numerous stakeholders.

7.5.2 Internal Resource Allocation

Internal resource allocation is concerned with how the institutions distribute financial resources to the faculties and departments within the institutions. As pointed by Pfeffer and Salancik (1974), one important decision made within virtually all organisations is the allocation of scarce resources to organisation sub-units where resource allocation decisions within organisations are important in understanding how resources are distributed to various activities within the larger society (p.138). Here four themes were identified: process of allocation, allocation model, allocation implementation, and incentives emerged under internal resource allocation.

With regard to the process of allocation, there were similarities within the public polytechnics whereas at the private polytechnic no internal allocation process was in practice. The internal allocation process began when the budget is approved for each unit, a meeting of all heads of departments with the dean is held and allocation is done based on the activities of each department. It does not mean that the allocation is shared equally, as the activities and needs of each unit determine how much each department gets and monies are then shared from the total funds allocated to the unit and each unit administers what is given to it. The bursar is informed and disburses funds when needed. In essence, the bursar is the custodian of all monies in the public polytechnics. This process, as pointed out by Baldridge (1971), represents a group of professionals organised on a collegial basis with emphasis on the interpersonal context and the making of decisions through processes of consultation rather than by recourse to formal authority.

At the private polytechnic, such a process was non-existent. While each head of unit at the public polytechnics had power over the money allocated to them, no head of unit had such powers at the private polytechnics as the president approves any expenditure item before the bursar can release any funds.

Under the resource allocation model, the practice among the three polytechnics was aptly described by Baldridge (1971) as bureaucratic model which stresses universalistic criteria, formulation of rules and procedures, a hierarchy of authority, well-defined channels of communication and concern for efficiency and goal attainment.

Respondents indicated that centralised models of resource allocation were in practice at the public polytechnics, while at the private polytechnic the president presides over all issues concerning finances which were equally centralised. At the public polytechnics, respondents felt dissatisfied as faculties and departments were not allowed to have their own accounts. An interviewee noted that the resource allocations within the public institutions were characterised by bureaucracy as faculties and departments had no control over their allocations. However, there were opposing views as explained by two top management staffs members of the public polytechnics.

According to the state polytechnic top management official, money cannot be given to the departments or the schools, otherwise there would be wastage. Each school and department has its own budget and the allocation is not handed directly to them to spend otherwise there may not be adequate control. The federal polytechnic top management official, while agreeing with this comment, noted that the essence of centralised model of resource allocation was to monitor the movements of funds. The former top management official of the state polytechnic, pointed out that centralisation was not in practice during his tenure and the allocation system had changed. He asserted that he was not an advocate of centralisation.

With regard to the resource allocation implementation, the political model dominates as pointed out by Baldridge (1971). Here, the polytechnics are viewed as coalitions where conflict occurs among participants and the answer to what decisions will be made is to be found in examining who has power to apply the decision in a particular decision context. Thus power rather than what is optimal for achieving some institutional objective becomes an important decision element.

The incentives given should serve as motivation to those units who generate revenues for the institutions. But responses indicated that those units were dissatisfied with the actions of the public polytechnics as part of the revenues that were meant for the units generating the

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revenues went to the bank accounts of the central management. At the federal polytechnic, a dean said that she had pleaded with the management on several occasions that at least part of the money should be given to the school to refurbish some equipment to enhance practical teaching but such pleas fell on deaf ears. The same experience was recounted at the state polytechnic as the top management official who generated capitation fees had refused to encourage more enrolees due to lack of motivation. According to another interviewee who generated revenues through consultancy said that there is too much bureaucracy to even access the money to carry out the work that generates the revenue. Not only has that but the percentage of the profit which is meant to go to the department gone into the central basket. The same practice was being experienced at the private polytechnic as any income from the business and printing centre goes to the central purse of the institution.

Henry (2007) maintains that the degree by which higher education institutions are open and affordable is determined through proper management of fiscal resources. While noting that effectiveness in terms of resource allocation is not apparent in literature, he however suggests that all revenues expended in support of instructional delivery must be examined to determine resource allocations that will sustain the activities of the faculty and non-academic units to be able to achieve their mission and ensure fulfilment of the obligations of the institutions to ensure delivery of instructions in the most effective and efficient manner (pp. 52 and 53).

However, there were divergent opinions among the participants as there was support for both centralised and decentralised internal resource allocation models. The findings based on centralisation and decentralisation tally with the findings of a number of studies (Carnoy and Hannaway, 1993, p.34; Chevaillier, 2002; Flingert and Field, 2001; Jarzabkowski, 2002, p.7 and Massy and Hulfactor, 1993).

In supporting the decentralisation model, Flingert and Field (2001) advocate for a flexible decentralised model to gain the most efficient use of resources and maintain that it becomes absolutely unnecessary for any faculty to worry about the amount of resources it will receive if it has no control over them.

However, based on the fact that there is no best internal resource allocation in literature, this study showed that the three polytechnics were assumed to be practising the most suitable resource allocation system in achieving their missions but responses indicated low perceived effectiveness at the public polytechnics.

7.5.3 Information Communication Technology (ICT)

In the literature, Information Communication Technology (ICT) has become an important topical issue and is well documented by notable researchers (World Bank, 2006; Bloom et al., 2007 and Altbach, 2002). According to the World Bank (2006), the availability of information and communication technology in a society will no doubt add value to a host of human development indicators. The accessibility and affordability of ICT, and its use by individuals who have acquired the necessary training will increase the accessibility and quality of education and training, expand users' skills, encourage more research and distribution of research results, and expand networks creation (p.34).

Altbach (2002) notes that the ICT revolution is accelerating the pace of scientific research, communication and information updates. ICT is also used to identify the latest competitive advantage within the scientific working environment. He asserts that the advantages brought about by ICT will equally impact upon education and the academic profession globally but observes that such resources and exchange channels are relatively recent in developing countries and highly sporadic within the academic environment.

In this study, information and communication technology was treated as a theme. Most of the respondents in the public polytechnics indicated that investment in information communication technology was minimal, as the institutions were not yet fully aware of the computer age, which has reduced the global world into a village. The effects were significant on the students, as they were not given the necessary practical knowledge for them to be able to compete in the outside world. Furthermore, members of staff lacked computer skills to enable them to use computers effectively.

At the state polytechnic the computer training given to the staff was an introductory training which was limited to teaching members of staff how to check their email on the internet. As a senior member of staff in a federal polytechnic, I was not an exception. On arrival on campus at the University of Southampton, I found it extremely difficult to enrol online as that was the first time I had heard of an online transaction. Fortunately I was helped by a colleague from Ghana. Today my knowledge of computers was entirely gained in the United Kingdom. Such is the situation among staff members of polytechnics in Nigeria. There is no internet connectivity, and computer literacy is almost inexistent.

At the private polytechnic, even though the institution was an offshoot of a computer college, the staffs were not computer literate and students had some practical knowledge. A respondent suggested that polytechnic students be developed technically and helped to manufacture a Nigerian made handset funded by the government, *"**This is the type of practical knowledge I am referring to".** Even if the production is high in terms of cost, let

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the government subsidise it and make sure the product is sold. Furthermore, the three polytechnics were still using the chalkboard to disseminate knowledge instead of the common projectors used in similar institutions where ICT usage has become a norm.

The findings with regard to the ICT theme were in agreement with the studies of the World Bank (2006) and Bloom et al. (2007). The World Bank carried out a survey on Science and Technology Post-Basic Education in Nigeria and showed that there were very few promising cases of effective use of ICTs in education due to several constraints, among which are: the high cost of ICT connectivity, the dearth of ICT technicians, limited training in ICT facilitated teaching, and low rates of ICT literacy. These constraints mitigate against the impact that low-cost, accessible ICT could have in broadening access to, and enhancing the effectiveness, higher education in Nigeria (p. ix).

In their own perceptions of ICT, Bloom et al. (2007) pointed out that the use of ICT requires planning as well as resources to meet bandwidth requirements, electricity supply needs, and the growing demand for internet access points. They opined that the lack of financing of ICT in developing countries raises a familiar question: will new technologies simply widen the existing gap in access to higher education between the developing and developed countries? (p.450). Based on these facts, one can conclude that the three polytechnics were low in terms of perceived effectiveness in Information Communications Technology (ICT).

The next section considers the derived goals from the participants' interviews and focus group which answered the second question:

What goals can be derived from the participants' interviews that relate to perceived organisational effectiveness?

7.6 Derived Goals from Interviews

The second research question investigates the issues derived from the participants' interviews that are related to organisational effectiveness. Five criteria emerged: the upgrade of polytechnics to university status; corruption within the Nigerian society; discrimination against polytechnic graduates; irregular and inadequate supply of electricity, and unified funding system of tertiary education.

7.6.1 Upgrade of Polytechnics to University Status

In 2008, the Federal Government made a public pronouncement that some selected polytechnics in Nigeria will start awarding degrees in their respective disciplines. The federal polytechnic under investigation was one of the selected institutions. According to Fatunde (2008), one of the main objectives of such a reform was to create additional avenues for would-be students in a country where hundreds of thousands of qualified school leavers are unable to gain admissions each year. In addition, the reform was meant to strengthen polytechnic education and make these institutions concentrate on their primary mandate while increasing access to tertiary education. In readiness for the reform implementation, the government promised to make adequate funds available for the recruitment of university lecturers and to upgrade the institutions' infrastructure. Furthermore, the government also merged both the salary and career prospects of holders of university degrees and graduates of polytechnics with the former having had an edge and thus earning higher salaries than polytechnic graduates. This reform was met with mixed reactions.

In this study, some respondents pointed out that this policy will encourage the retention of technical skills within the economy if the National Diploma is retained as the entry qualification for the New Bachelor's degree in Technology while the Higher National Diploma (HND) will be phased out. A top management official also suggested that this may bring an end to the discrimination of polytechnic graduates in the labour market as this reform would meet the yearnings of school leavers who want to receive a university education at any cost. A respondent compared the reform with what happened in 1992 when the British government upgraded all polytechnics to universities in United Kingdom (UK) to award degrees. It is not surprising that most of these institutions today run post-graduate programmes.

However, some distinctions can be made between the reform in the United Kingdom and Nigeria. First, only some polytechnics were selected for the upgrade in Nigeria unlike in the UK when all polytechnics were upgraded. Second, the suggested policy in Nigeria is to see only the Higher National Diploma (HND) being phased out while in UK most of these institutions no longer run the National Diplomas.

7.6.2 Corruption

In literature, corruption is defined in several ways. According to Hallack and Poisson (2002) a good definition of corruption must consider the difference between corrupt behaviour and its effects, and consider the regularity involved. Hallack and Poisson defined corruption as the systematic use for private benefits of public office with significant impact

on access, equity or quality in education (pp.16and17). Similarly, Heyneman (2004) defined corruption as the abuse of authority for personal as well as material gain but since education is regarded as an important public good, its professional standards must be more than just material goods (p.638).

In this study, some respondents made it abundantly clear that the Nigerian society is characterised by corruption including the educational sector. A top management official traced the retrogressive position of education to corruption and explained the dimensions of corruption as comprising the bribing of heads of departments and deans by parents in order for their wards to excel in their studies. Another respondent claimed that educational corruption begins from the admission process where impersonation, that is writing examinations for other candidates, is a usual occurrence. The lecturers were equally as guilty as the parents and students. Because of the meagre salaries being paid to them, it was very easy for them to succumb to corruption pressures as they too want to enjoy extravagant lives. At faculty level, to obtain accreditation, one must bribe the accrediting bodies. However, the respondent claimed that within the African culture in general and Nigeria in particular, corruption was alien but blamed the colonial masters as the brain behind corruption importation to Nigeria.

He concluded that for Nigeria to progress efforts must be geared towards the eradication of corruption in the public sector and such a crusade must start from the top.

Furthermore, another respondent claimed that stories of corruption set a bad example for the youths of the country as media reports on cases of corruption have become frequent. This has led to some youths becoming very lazy and turning into armed robbers after graduation from tertiary institutions.

The opinions of the respondents were similar to Osipian's (2009) who pointed out that:

> Corruption in higher education is not limited to bribery alone. Bribes are but the most explicit manifestations of higher education corruption. Other types of corruption include, embezzlement, extortion, misuse of institution property, ghost workers, fraud, nepotism, cronyism, favoritism, kickbacks, unauthorized private tutoring, cheating, research misconduct, assigning a high grade to a

student in exchange for bribe, bribe to accrediting agencies, and sexual misconduct (p. 323) .

In the literature, notable researchers (Salmi, 2009; Rumyantseva, 2005; Osipian, 2009; Omotola, 2007; Kamens, 2012; Hallack and Poisson, 2002; Heyneman, 2004; and Ekanem, Okore and Ekpiken, 2012) describe corruption in higher education as a social problem which has a negative impact on the society.

7.6.3 Discrimination against Polytechnic Graduates

In a thought provoking article entitled "***Give the polytechnic a chance***" Salawu (2005) asserts that the industrial growth of any nation depends on the level of educational advancement and development of its middle level workers. There are many polytechnic students with the Higher National Diploma (HND) and their presence in any economy may help its growth and development and by implication its national development. The consequence of its absence in any nation is lack of development or slow national development. This is exactly the case and problem with Nigeria. Even though Nigeria has many polytechnics that produce these middle level workers, its economy has refused to grow. This is attributed to the disparity between the HND and Bachelors degree and the controversy which has resulted in many students opting for a university education, which is purely academic and theoretical, in preference to a polytechnic education which is practical and pragmatic. Salawu (2005) maintains that the nation's ailing economy must be resuscitated through technical education.

Most respondents gave reasons why there was a dichotomy between university and polytechnic graduates. Some attributed it to lack of knowledge on the role of polytechnic education in a developing economy like Nigeria's. To some it was a case of politics, non-concern attitude of the government, and the fact that those who direct the affairs of governments' civil services were products of universities who would not want a change the status-quo. The dichotomy had resulted in parents discouraging their children from attending polytechnics as polytechnics in Nigeria are considered second best. A respondent used the accounting profession to point out that polytechnic accountancy graduates generally made better auditors within chartered accounting firms, while university graduates were better suited to the role of management accountants within the manufacturing sector. Moreover, as noted by a respondent, the choice of which higher education path to follow should be down to each youth as the type of training provided by the two different institutions is not the same.

According to Sule (2013), it is possible for graduates of the universities to rise to the highest level in the civil service whereas the polytechnic graduates cannot rise beyond level 12 at most. The implication is that polytechnic graduates were placed far below their university counterparts thereby creating a perception of inferiority even when graduates of the polytechnic have proven themselves beyond doubt in their chosen fields. Another aspect which makes the dichotomy unnecessary is the fact that more time is needed to acquire the HND Certificate than to graduate from university; two years are required for the National Diploma (ND), one year for an industrial training (IT) attachment, two years for the Higher National Diploma (HND) and one year for the National Youth Service (NYSC), totally six years in all.

7.6.4 Electricity Supply

That the challenges in the supply of electricity power supply in Nigeria are enormous is an understatement. The energy sector is in a precarious position and needs to be urgently addressed.

This explains why many analysts have asserted that if the challenges in the power sector are successfully tackled, Nigerians' problems would be half way to being resolved. Adequate electricity power supply to the nooks and crannies of Nigeria will go a long way in resolving most of the ills plaguing the country and ensure its socio-economic sustainable development (Ivori, 2013).

The responses were unanimous across the three polytechnics that the inadequacy of the electricity service results in an environment, which is not conducive to learning. The lack of electricity means that laptops cannot be used, there can be no practical learning sessions, lectures in classes are interrupted and carrying out research is difficult. Furthermore, the lack of a stable electricity supply drives individuals and businesses to move to other countries which do not have this problem.

In her address "Saluting the leaders of the future" Jackson (2006), the president of Rensselaer Polytechnic Institute, elaborated on the advantages and disadvantages of energy stability. She said:

> For any country, affordable energy, especially access to electricity,
> enables better health care, improved education, and greater food
> production. Infant mortality decreases, life expectancy increases,

living standards rise. Citizens live longer, and earn higher wages. In short, more global development requires more global energy. Jackson (2006).

Focusing on the poorest countries Jackson (2006) noted the disadvantages as follows:

> If we fail to address the energy needs of the poorest nations, millions will remain in poverty, with scarce water and food, lack of basic education, inadequate health care, and unable to function in the global innovation enterprise. They will continue to feel keenly the imbalance in the distribution of wealth and privilege. This can lead to a sense of humiliation to unrest and instability, conditions easily exploited by extremist groups, increasing the global threat of terrorism, or the human rights abuses, corruption, despotism, and other forms of poor governance. Failure to address energy security on worldwide basis has global repercussions (Jackson, 2006).

In Nigeria notable researchers (Ogbuagbu and Ubi, 2009; Ndujihe and Kalejaiye, 2013; Guardian, 2008; and Agyeman, 2007) pointed out that the irregular and inadequate supply of electricity can hurt the country's goal of being among the top 20 economies of the world in 2020. According to an editorial on The Guardian (2008), the biggest problem in Nigeria is corruption without end while the biggest headache from that corruption is electricity, a crisis without end. In essence, there is no nation that can do without electricity as it represents the wheel by which growth and development can be achieved.

7.6.5 Unified Funding System

In Nigeria, higher education comprises the universities, polytechnics, and colleges of education. The universities' policies and development are governed by the National Universities Commission (NUC), the polytechnics' by the National Board for Technical Education (NBTE), while the colleges of education are governed by the National Commission for Colleges of Education (NCCCE).

According to one of the respondents each of these bodies incurs a great deal of overheads and as such none of them can perform effectively. He pointed out that they contribute to the erosion of quality being experienced in the education sector. He contended

that the best course of action is to centralise the higher education body into a unified body as has been done in the United Kingdom.

7.7 Conclusion

This study has attempted to evaluate how polytechnic institutions in Nigeria compare in terms of perceived effectiveness in achieving their missions within the higher education system.

In Nigeria, the higher education sector is one of the worst managed sectors. The stakeholders have been very concerned with the polytechnic education in the country and have constantly called for its improvement. Accusations have been made that polytechnic education is of low quality. This evaluation on the perceived effectiveness of the polytechnic institutions was therefore not accidental but a timely and necessary piece of research.

The conclusion reached by this study under the human relations model is that the public polytechnics are better at staff training and development than the private polytechnic as perceived by the respondents, but inadequacy of funding is being faced by the three polytechnics. Staff remuneration was perceived to be poor in the three polytechnics while relationships on campus were more cordial in the state and private polytechnics than in the federal polytechnic.

In relation to the open systems model it was found that the three polytechnics cannot be seen as entrepreneurial institutions as the public polytechnics still depend on government subsidies to survive, while the private polytechnic's major revenue stream was the tuition fees. The physical infrastructure and equipment was perceived to be grossly inadequate in the three polytechnics; this includes facilities such as lecture halls, laboratories, offices, workshops, hostel accommodation, libraries, electricity supply etc. Accreditation modalities were common among the institutions, reflecting that there are common elements which contribute to higher education effectiveness but the public polytechnics were perceived to be most effective as most of their courses were accredited unlike the case in the private polytechnic.

In relation to the rational goal model, it was found that the institutions make use of strategic planning in their long term goals. The federal polytechnic's major concern was the introduction of a new maritime programme; the state polytechnic's focus was on how the polytechnic can become a digital technology institution and the private polytechnic's goal was the relocation of the institution to the newly constructed permanent site.

In relation to the internal process model, accountability in the public polytechnics was regulated by their respective governments while the president of the private polytechnic dictated the policies on accountability. However, auditing of accounts was common to all the three institutions. The internal resources allocation was perceived as non-consistent and full of bureaucracy in the three polytechnics due to the centralised model in place.

The information communication technology was equally perceived to be less effective in the three institutions as modern technologies that can make teaching more effective are non-existent in the institutions.

On the issue of derived goals the issue of corruption as perceived by the participants, was highly worrisome. According to Omotola (2007), the Nigerian academy is enmeshed in a deepening crisis of integrity, which has taken a heavy toll on the intellectual responsibilities of scholars. Given the inevitable consequences, it is the state and society that will suffer in the long run. Abayomi (2011) enumerated the following effects of corruption on national building: private gain through diversion of developmental resources; talent misallocation; tax revenue loss; negative impact on the quality of infrastructural and public services and slow economic growth.

Furthermore, it has been shown that the competing value framework is not only applicable to business organisations but is also a useful tool for evaluating organisational effectiveness in higher education. Its usefulness as a framework for this study has shown that effectiveness cannot be studied using only one model and for a balanced evaluation it is always better to assess organisations on the basis of the four models of the competing values framework of organisational effectiveness. This will always provide a balanced scorecard for organisational effectiveness evaluation. Moreover, the findings showed that there were more differences than similarities among the polytechnics studied. This emerged from the use of a qualitative methodology and the triangulation of data which enabled the participants to narrate their life experiences tied to the ten criteria which were evaluated.

In the literature, effectiveness in higher education has been described as complex, characterised by problems such as inadequacy of indicators identification, too much reliance on single indicators without consideration for multiple factors, lack of time frame, and dissimilar organisational over-generalisation. In addition, the measure of effectiveness has been met with conditions of ambiguity, institutions as organisations not having measurable goals, loose coupling, little direct connection between acquired resources and effective usage. Due to these inconsistencies, notable researchers such as Goodman et al. (1983) have called for a halt to effectiveness discussions. But this cannot be as higher education institutions have

obligations to society, which in turn help members of society study, understand, and make decisions about how institutions are performing. More importantly, such decisions to some extent determine the parents' choice of institution to send their children. The implication therefore is that without fully understanding what effectiveness is and how it is represented it becomes difficult to provide adequate information to society about institutions and how to improve them.

In his conclusion regarding organisational effectiveness, Cameron (1978) said that it is not possible for an institution to operate effectively in all effectiveness dimensions but there are some dimensions, which are regarded as very important due to the development of their effectiveness profiles. Moreover, no single profile can be judged to be better than any other since what is appropriate for the institution is determined through the combination of strategic constituencies, environmental domain and contextual factors. Cameron finally concluded that if criteria can be derived inductively with less focus on operative goals and more on organisational attributes, then the identification of relevant criteria would be made possible and public sector organisations could be subjected to a more fine-grained analysis (p. 626).

Greenberg (1994) provided four broad conclusions along the same lines. The first is that there are multiple models of organisational effectiveness which are arbitrary in nature and no model can be said to be superior to the others and as such no model can inherently be said to have an advantage over another. Second, the conceptual boundaries of organisational effectiveness are unknown and it is still unclear which criteria are indicators, predictors and outcomes. Third, in the assessment of organisational effectiveness, the best criteria are unknown and are unknowable. This is because individual preferences and expectations are very difficult to determine as different constituencies have different preferences and expectations so creating a stable set of effectiveness criteria was not feasible. Lastly, researchers should focus on specific frameworks rather than general effectiveness theories because effectiveness assessment methodologies are very complex and require more detailed examinations (p.142).

In his quite recent research on organisational effectiveness Kondalkar (2009) concludes that goal attainment, growth, profitability, productivity, and employee satisfaction are the indicators of organisational effectiveness as a multidimensional concept which cannot be measured by a single criterion. Recognising the pros and cons of different approaches in the assessment of organisational effectiveness, he enjoined organisation managers and academic managers to use wisdom in the selection of any model. For Kondalkar,

effectiveness depends on individual and group contributions. The group abilities represent the synergy by which organisational processes and systems achieve harmony. Effectiveness therefore is achieved when the contributions of the group are larger than the sum total of individual efforts which can best be described as the cohesiveness achieved by the group. He therefore maintains that for organisations to be effective, a synergy must be achieved between the groups in the organisation and various environmental factors (p.11).

Other researchers (Cameron, 1981, p.43; 1986, p.109-110, Solanke, 2012) came to similar conclusions on organisational effectiveness. In this study, it was observed that the evaluation of effectiveness is less complex when only one institution is under investigation, but when it comes to comparisons between and among institutions, as undertaken by this study; effectiveness becomes harder to evaluate. Effectiveness differs from institution to institution as the criteria that can be used to evaluate federal polytechnic effectiveness differ from those that can be used to evaluate the effectiveness of state and private polytechnics. Effectiveness therefore is a case of individual differences. Another basic reality about effectiveness is that there are numerous criteria used in the assessments of organisations thus making effectiveness a construct which relies on the judgement of the individual defining what the effectiveness criteria are at a particular period of time. This makes effectiveness a child of many parents, and hence many models and theories of effectiveness are in vogue at any one time.

As stated by Campbell (1977), the best way to think of organisational effectiveness is as a construct that has no necessary and sufficient operational definition but constitutes a model or theory of what organisational effectiveness is. The functions of such a model variables must be identified, and how they are interrelated must be specified (p.18). However, as indicated by Cameron (1986, p. 110), the ten criteria of effectiveness evaluated in this study may not be taken as sufficient criteria for all types of institutions nor for all evaluations as efforts must be geared towards identification of more additional and reliable criteria.

7.8 Implications for the policymakers

In the literature, what is most disturbing is the low importance accorded polytechnic education in Nigeria. Therefore, it becomes more critical to evaluate effectiveness among the institutions because they are operating under conditions of financial inadequacy. As pointed out by Powell, Gilleland and Pearson (2012), the long assumptions and rationale by higher education leaders was that to increase effectiveness requires an increase in funding and this argument has been used for decades as justification for appropriations and tuition increase.

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This is no longer an acceptable rationale for stakeholders or academic leaders. In view of this fact, evaluation of effectiveness is inexact. While it can be argued that funding matters, its impact on producing the desired effectiveness within institutions is very difficult to evaluate. Therefore each criterion used in this study of effectiveness is very important as the findings indicated that the three polytechnic institutions differ in terms of perceived effectiveness.

In the study of effectiveness in higher education, it must be noted that the managerial strategies required are multi-faceted as no institution can succeed in being effective by being monolithic. The task before polytechnic stakeholders therefore is how to combat the myriad problems in various areas over time in order to be effective in achieving their missions within the higher education system.

The next section considers the recommendations.

7.9 Recommendations

Some recommendations are made on ways to improve the effectiveness of the polytechnic institutions based on the findings of this study. The recommendations are discussed below.

For polytechnic institutions to be effective, sources of revenue must be generated in order to enable them to achieve their missions and the more sources available the better as the meagre resources available at the polytechnics at present can only continue to make the institutions poorer. The way resources are allocated through line-item system is not helpful to the public polytechnics. A more effective way would be using the block allocating system which would enable academic managers to plan, prioritise, and control their activities.

However, the best option for the institutions is to embark on a vigorous internal revenue generation process in order to achieve financial autonomy and be able to manage and control their own financial affairs. Such revenue generation ideas may include: faculty and institutional entrepreneurship; selling specialised and marketable teaching or scholarships; renting polytechnic facilities to commercial entities; commercially marketing research discoveries; and fundraising by appealing to alumni and other donors.

Furthermore, the action of the Federal Government in Nigeria to remove oil subsidies is an indication that education budgetary allocation for public polytechnics may be increased in the nearest future but effective institutions should not rely on external funding as they have no control over it.

Training and staff development is crucial to effectiveness. Quality staff, quality faculties, departments and students are the result of an effective organisation. Managements of public polytechnics must ensure excellent training is given to their staff both on the job and in their personal time by increasing the budget for training while the private polytechnic must incorporate training and development as part of their mission. The staffs of the institutions must be encouraged to improve their academic qualifications, register with necessary professional bodies, organise and attend seminars and conferences both locally and overseas, expose themselves to academic research, contribute articles in reputable journals and have access to these journals for knowledge updates.

The management and policymakers of the institutions must constitute remuneration committees to look into the poor remunerations of the institutions' staff.

Human relations must be embraced on campus by the management of the institutions at all times putting into consideration the concept of esprit-de-corps expressed in the motto ***"in unity we stand, divided we fall"***. Academic leaders must know that peaceful co-existence on campus can enhance learning effectiveness as chaos and anarchy will not contribute effectively to learning. Therefore, the strained relationship between the Academic Staff Union of Polytechnics (ASUP) executives and the management of the federal polytechnic must be resolved without delay.

Deteriorated and dilapidated physical infrastructure in the three institutions must be repaired and new structures put in place for effective learning. Ventilation, space, toilets, library sitting arrangements, clinics, and stadia for recreational activities, adequate staff offices, and good lecture halls must be provided.

Accreditation as a minimum standard must be achieved at all times and as such, the institutions must provide the equipment and resources needed to meet the requirements for accreditation. Gimmicks such as rearranging lecture halls with fifty students sitting arrangements in conformity with NBTE directives only to revert back to the crowding system after accreditation will not enhance effectiveness in learning. The private polytechnic must ensure that her courses are accredited in their next accreditation exercise.

Accountability for effectiveness must be both internal and external. The present internal accountability among the polytechnics must be extended to incorporate other institutions' stakeholders such as employers, parents, funding bodies and policymakers who need the institutions to be accountable.

The internal resource allocation model in the institutions is centralised and bureaucratic. Irrespective of the internal resource allocation model in use, academic managers must ensure objectivity and consistency in their internal resource allocations.

Incentives is another factor which top-management of the public polytechnics must pay attention to by making sure a certain percentage of resources generated by the faculties and departments for the institutions are allocated to them as compensation and motivation.

Technology is of great concern. The institutions must provide students with access to computer inter-connectivity, eBooks and research journals; and carry out learning activities online. Lecturers should be provided with digital boards rather than the traditional chalk-board that is still in use in the institutions.

Moreover, collaboration both locally and internationally, can provide reasonable mentoring to the polytechnics. Activities such as programme exchanges, internship exchanges and computer networking will enhance effectiveness among institutions.

Government policies must focus attention on essential issues that are beyond the control and power of the institutions most especially in relation to the goals mentioned by the respondents; namely: according polytechnic institutions university status, combating the endemic corruption ravaging the country, restoring inadequate and irregular supply of electricity, ending discrimination between polytechnic graduates and their university counterparts, and establishing a Funding Council to manage and regulate the affairs of higher education institutions in the country.

Finally, emphasis on the quality of polytechnic education must be at the top of the agenda of academic leaders. Quality represents the fulfilment of obligations by the institutions to the entire society and quality graduates as perceived by the society are indication that the institutions are effective.

7.10 Research Contribution

The study of effectiveness in higher education no doubt has been a very controversial issue in literature. This study on polytechnic effectiveness has contributed to the debate by clearly identifying and bridging the following knowledge gaps:

Empirical studies of organisational effectiveness in institutions of higher education have not only dominated the literature but were also largely limited to university education.

The literature search showed that most studies published on organisational effectiveness were mainly based on institutions in developed countries such as Europe, USA and Asia. The application of the competing values model as a theoretical framework was very

unclear in other studies making most submissions very controversial and difficult to understand.

From the forgoing, the current PhD work therefore provides: The first contribution to a combined study of both prescribed and derived goals evaluation with regard to organisational effectiveness. This study contributes to the literature being the first qualitative research on organisational effectiveness using polytechnic education as an exploratory case study which afforded the respondents the opportunity to express their opinions and feelings about the topic.

The empirical study now contributes to the controversy of organisational effectiveness in literature, as it compares and gives a clear picture of perceived effectiveness in three institutions of higher education in Nigeria most especially as it affects Federal, State and Private Institutions.

In the data analysis, the usage of the competing values model as a theoretical framework incorporated the criteria under each model. Parts of the findings and recommendations have already been published in journal **(appendix 12)** and conference articles.

Finally, the findings and recommendations of the study will be beneficial to polytechnic stakeholders including higher education policymakers, employers, academic leaders, faculties, top-administrators in the industry, and students. This study has set a precedent for other researchers who can make use of it as a reference point in their pursuit of their own empirical studies.

7.11 Limitations of the study

This study has the following limitations: The three polytechnics chosen for this study, federal, state, and private are great institutions, reputable and fast growing polytechnic institutions. They have contributed immensely to higher education development in Nigeria. When used as case studies these institutions do provide a basis for conclusions and recommendations but with one specific limitation: the fact that the three institutions are very dynamic and as such the findings reported here may become obsolete in a few years' time.

The qualitative research methodology and the use of case studies are also limitations because the population sample would have been greater if a quantitative methodology had been used.

The cooperation of some officials within the institutions came short of expectation. For example, the researcher found it extremely difficult to obtain the audited accounts of these institutions and was made to understand that they are not for public consumption.

In Nigeria, security matters. The intention of this research was to widen the scope of the study to include more institutions in the country but the militant operations within the Niger-delta are worrisome not only to Nigeria but also to the committee of nations. Also, the volatile unrest in some northern states of Nigeria caused by the 'Islamic extremists' called Boko-Haram made that region unsafe. Those areas were declared a 'risk zone' environment as they do not provide a conducive atmosphere for research of this nature. The supervisors of this study were of the same opinion.

The sample included in the study may be considered a limitation due to different unique characteristics by which institutions achieve their goals. As such the results of this research are only applicable to the sampled institutions.

The criteria evaluated constitute a limitation as they do not represent all the criteria by which higher education effectiveness can be evaluated.

Another limitation was that the data collected was initially meant to be used for another topic- funding and resource allocation in higher education - but was adapted for use within this new study.

These shortcomings may have affected the conclusions of this research.

7.12 Final Comments

It is important to note that this study in no way implied that any of the polytechnics was ineffective as an entity. What was indicated was that at any one time any one of the institutions may have been perceived to be less effective in achieving its goals than the others. In fact nowhere in this thesis is it stated that one institution is superior to another.

7.13 Areas for Further Research

Future researchers may be interested in investigating effectiveness in higher education so as to have an in-depth knowledge of the effectiveness construct by using the models and theories of effectiveness found in the literature, including this study. It is suggested that a bigger sample of institutions be assessed and using the findings of this study to compare results. Furthermore, this study could be extended to polytechnics in other countries using the same competing values model and criteria for comparisons of results. Also, the literature on organisational effectiveness is dominated by quantitative methodology

and it is suggested that more empirical studies based on qualitative methodology and analysis be carried out in order to compare results. Finally, efforts should be made by researchers in Nigeria to extend the studies of organisational effectiveness to other segments of higher education such as universities and colleges of education. The outcome of such researches may pave a new direction to higher education effectiveness in Nigeria.

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APPENDIX 1

<u>**LETTER OF INTRODUCTION**</u>

22 August 2008

Dear Sir
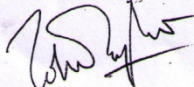
Re: Mr. Oluwole Adeniyi Solanke

This is to introduce Oluwole Adeniyi Solanke. Wole is currently registered for the degree of PhD in the Centre for Higher Education Management and Policy at Southampton (CHEMPaS), University of Southampton, UK. Wole is working under my supervision on a project concerned with the management of resources in polytechnics in Nigeria, including arrangements for resource allocation.

As part of this research, Wole hopes to develop a number of case studies for detailed research. This will involve collecting relevant documents and interviewing key members of staff. I hope very much that you will be willing to allow him to use your polytechnic as one of his case studies.

Wole is an excellent student and I am confident that his thesis will be of value both to your polytechnic and for the future development of higher education in Nigeria.

If you need any further information regarding this study, or about Wole himself, please do not hesitate to contact me directly.

Yours faithfully,

Professor John Taylor
Director of CHEMPaS

APPENDIX 2

LETTER OF CONSENT

School of Management
University of Southampton
Highfield
United Kingdom
SO17 IBJ

July 3, 2009

Dear Dr/Mr/Mrs/Ms,

LETTER OF CONSENT

This letter is about data collection by way of interview on Funding and Resource Allocation Management in Polytechnic Institutions in Nigeria.

The researcher is a lecturer in one of the Federal polytechnics in Nigeria. Presently, he is a PhD research student working on a project looking at effectiveness in higher education with reference to polytechnic education and the research on completion tends to improve the performance of polytechnic institutions in Nigeria.

You can help in this research by consenting to participate in the interview. The time of the completion will vary but not more than one hour at most is anticipated.

Contained in the interview are questions on higher education effectiveness and other questions which may be personal but helpful to the course of the research. The interview is voluntary and participants can decide to withdraw their consent at anytime.
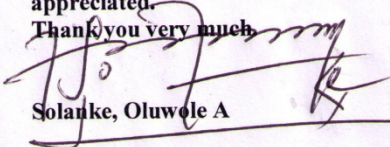
Please be assured that all the information given during the interview will be treated as confidential and as such, names or any information which will identify you will not be used in any publication arising from this research.

Kindly fill the details below as an assurance for your participation.

If you have any further questions about this research, feel free to contact either myself by email: oas2x07@soton.ac.uk or my supervisors, Dr. Natasha Rumyantseva, N.Rumyantseva@soton.ac.uk and Prof. Daniel Muijs: D.Muijs@soton.ac.uk, University of Southampton, Southampton, United Kingdom.

Your cooperation in order to make this research a huge success would be highly appreciated.
Thank you very much.

Solanke, Oluwole A

APPENDIX 3

PRIVATE POLYTECHNIC SCHOOLS AND DEPARTMENTS

1. **SCHOOL OF BUSINESS AND MANAGEMENT STUDIES**

   Accountancy

   Banking and Finance

   Business Administration

   Mass Communication

   Marketing

2. **SCHOOL OF SCIENCE**

   Computer Science

APPENDIX 4

STATE POLYTECHNIC SCHOOLS AND DEPARTMENTS

1. School of Agriculture

- **Agricultural Technology**
- **Agricultural Extension & Management**
- **Animal Production & Fisheries**
- **Crop Production & Horticulture**

2. School of Engineering Technology

- **Agricultural Engineering Technology**
- **Farm Power & Machinery**
- **Post Harvest Technology**
- **Soil & Water Engineering**
- **Chemical Engineering Technology**
- **Civil Engineering Technology**
- **Electrical/Electronic Engineering Technology**
- **Mechanical Engineering Technology**
- **Production**

3. School of Environmental Studies

- **Architectural Technology**
- **Art & Design**
- **Building Technology**
- **Estate Management**
- **Quantity Surveying**
- **Town & Regional Planning**

4. School of Management & Business Studies

- **Accountancy**
- **Banking and Finance**

- **Business Studies**

- **Insurance**

- **Mass Communication**

- **Marketing**

- **Secretarial Studies**

5. School of Technology

- **Computer Science**

- **Food Technology**

- **Hotel and Catering Management**

- **Mechanical Engineering**

- **Science Laboratory Technology**

APPENDIX 5

FEDERAL POLYTECHNIC SCHOOLS AND DEPARTMENTS

SCHOOLS

- **School of Art, Design and Printing**
- **School of Engineering**
- **School of Environmental Studies**
- **School of Management and Business Studies**
- **School of Science**
- **School of Technology**
- **School of Liberal Studies**
- **Technical and Vocational Education Department**
- **School of Part Time Studies**

DEPARTMENTS UNDER EACH SCHOOL

1. SCHOOL OF ART, DESIGN AND PRINTING

- **Department of Fine Art**
- **Department of Graphics Design**
- **Department of Industrial Design**
- **Department of Printing Technology**

2. SCHOOL OF ENGINEERING

- **Department of Civil Engineering**
- **Department of Electrical & Electronic Engineering**
- **Department of Industrial Maintenance Engineering**
- **Department of Mechanical Engineering**
- **Department of Computer Engineering**
- **Department of Metallurgical Engineering**

3. SCHOOL OF ENVIRONMENTAL STUDIES

- **Department of Architectures**
- **Department of Building Technology**
- **Department of Estate Management**
- **Department of Quantity Surveying**

- **Department of Urban and Regional Planning**
- **Department of Land Surveying**

4. SCHOOL OF MANAGEMENT AND BUSINESS STUDIES

- **Department of Accountancy and Finance**
- **Department of Banking and Finance**
- **Department of Business Administration & Management**
- **Department of Marketing**
- **Department of Secretarial Studies**

5. SCHOOL OF SCIENCE

- **Department of Chemical Science**
- **Department of Biological Science**
- **Department of Physical Science**
- **Department of Mathematics**
- **Department of Statistic**

6. SCHOOL OF TECHNOLOGY

- **Department of Computer Technology**
- **Department Food Technology**
- **Department of Hotel and Catering Management**
- **Department of Polymer and Textile Technology**
- **Department of Leisure and Tourism**

7. SCHOOL OF LIBERAL STUDIES

- **Department of Languages**
- **Department of Social Sciences**
- **Department of Mass Communication**

8. TECHNICAL AND VOCATIONAL EDUCATION DEPARTMENT

9. SCHOOL OF PART TIME STUDIES

APPENDIX 6

FEDERAL GOVERNMENT BUDGET AND EDUCATION ALLOCATIONS
(N') (2001-2010)

YEAR	TOTAL BUDGET	EDUCATION ALLOCATION	% ALLOCATED
2001	894,214,805,186bn	62,567,055,443	14.3
2002	1,064,801,253,250tn	73,435,499,300	14.5
2003	976,254,543,375bn	79,504,493,833	12.2
2004	1,302,523,844,588tn	103,767,886,839	12.6
2005	1,799,938,243,138tn	120,035,527,799	15
2006	1,899,987,922,467tn	167,278,378,749	11.4
2007	2,309,223,949,983tn	189,199,774,929	12.2
2008	2,748,000,000,000tn	168,649,142,600	16.3
2009	2,870,000,000,000tn	224,676,889,661	12.8
2010	4,608,616,278,213tn	249,086,254,059	18.5

Source: (Federal Ministry of Finance, 2010)

APPENDIX 7

STATE GOVERNMENT BUDGET AND EDUCATION ALLOCATIONS

(N'BN) (2001-2010)

YEAR	TOTAL BUDGET	EDUCATION ALLOCATION	% ALLOCATED
2001	48,915	6,771	13
2002	58,235	6,851	11
2003	62,653	8,990	14
2004	77,407	12,683	16
2005	112,709	14,610	12
2006	224,232	20,033	08
2007	274,763	19,258	07
2008	403,401	48,586	12
2009	405,000	51,577	12
2010	389,571	52,588	13.5

SOURCE: (STATE MINISTRY OF FINANCE, 2009)

APPENDIX 8

PART-TIME COURSES ANNEXES FOR THE STATE POLYTECHNIC.

1. **Abesan**
2. **Agboju**
3. **Agege**
4. **Ajegunle**
5. **Alagbado**
6. **Alapere**
7. **Amuwo-Odofin**
8. **Badagry**
9. **Ebute-Meta**
10. **Ejigbo**
11. **Epe**
12. **Idimu**
13. **Ifako-Ijaye**
14. **Ijegun**
15. **Ijeshatedo**
16. **Ikeja**
17. **Ikeja-Metropolis**
18. **Ikorodu**
19. **Ikosi**
20. **Jibowu**
21. **Kosofe**
22. **Lagos-Island**
23. **Lekki**
24. **Mainland**
25. **Mushin**
26. **Obalende**
27. **Ojo**
28. **Ojodu**
29. **Ojota**
30. **Onipanu**

31. Oregun

32. Oriwu

33. Oshodi

34. Otto-Ijanikin

35. Somolu

36. Surulere

37. Yaba

APPENDIX 9

FEDERAL POLYTECHNICS IN NIGERIA

	INSTITUTIONS
1.	Akanu Ibiam Federal Polytechnic, Unwana-Afikpo, Ebonyi State.
2.	Auchi Polytechnic, Auchi Edo State
3.	Federal Polytechnic, Ado-Ekiti.
4.	Federal Polytechnic, Bauchi, Bauchi.
5.	Federal Polytechnic, Bida, Niger State.
6.	Federal Polytechnic, Damaturu, Yobe State.
7.	Federal Polytechnic, Ede, Osun State.
8.	Federal Polytechnic, Idah, Kogi State.
9.	Federal Polytechnic, Ilaro, Ogun State.
10.	Federal Polytechnic, Kaura Namoda, Zamfara State.
11.	Federal Polytechnic, Mubi, Adamawa State.
12.	Federal Polytechnic, Nasarawa, Nassarawa.
13.	Federal Polytechnic, Nekede-Owerri, Imo State.
14.	Federal Polytechnic, Offa, Kwara State.
15.	Federal Polytechnic, Oko, Anambra State.
16.	Hussaini Adamu Federal Polytechnic, Kazaure, Jigawa State.
17.	Kaduna Polytechnic, Kaduna.
18.	Waziri Umaru Federal Polytechnic, B/Kebbi, Kebbi State.
19.	Yaba College of Technology, Yaba, Lagos.
20.	Federal Polytechnic, Bali, Taraba State
21.	Federal Polytechnic, Ekowe, Bayelsa State

APPENDIX 10

PRIVATE POLYTECHNICS IN NIGERIA

1.	Allover Central Polytechnic, Sango-Ota, Ogun State.
2.	Crown Polytechnic, Ado-Ekiti
3.	Dorben Polytechnic, Bwari, FCT.
4.	Fidei Polytechnic, Gboko, Benue State.
5.	Grace Polytechnic, Surulere, Lagos State.
6.	Interlink Polytechnic
7.	Lagos City Polytechnic, Ikeja.
8.	Lighthouse Polytechnic,
9.	Our Saviour Institute of Science Agric and Technology, Enugu.
10.	Ronik Polytechnic, Lagos.
11.	Universal College of Technology, Ile-Ife, Osun State.
12.	Wolex Polytechnic, Ikeja, Lagos State.
13.	Heritage Polytechnic, Ikot Udota, Eket, Akwa Ibom State.
14.	Temple Gate Polytechnic Aba, Abia State
15.	Interlink Polytechnic, IJebu-Jesa, Osun State.
16.	Covenant Polytechnic, Aba, Abia State
17.	Tower Polytechnic Ibadan, Oyo State

APPENDIX 11

STATE POLYTECHNICS IN NIGERIA

	INSTITUTIONS
1.	Abdu Gusau Polytechnic, Talata-Mafara, Zamfara State.
2.	Abia State Polytechnic, Aba, Abia State.
3.	Abubakar Tatari Ali Polytechnic, Bauchi.
4.	Adamawa State Polytechnic, Yola.
5.	Akwa-Ibom State College of Art and Science, Numkum
6.	Akwa-Ibom State Polytechnic, Ikot-Osurua
7.	Benue State Polytechnic, Ugbokolo
8.	Delta State Polytechnic, Ogharra
9.	Delta State Polytechnic, Ozoro
10.	Delta State Polytechnic, Ugwashi-Uku
11.	Edo State Institute of Management and Technology, Usen
12.	Gateway ICT Institute, Itori, Ewekoro, Ogun State.
13.	Gateway ICT Polytechnic, Igbesa, Ogun State.
14.	Gateway ICT Polytechnic, Saapade, Ogun State.
15.	Hassan Usman Katsina Polytechnic, Katsina.
16.	Imo State Polytechnic, Umuagwo
17.	Institute of Management. & Technology, Enugu.
18.	Jigawa State Polytechnic, Dutse
19.	Kano State Polytechnic, Kano.
20.	Kogi State Polytechnic, Lokoja.
21.	Kwara State Polytechnic, Ilorin.
22.	Lagos State Polytechnic, Ikorodu.
23.	Moshood Abiola Polytechnic, Abeokuta, Ogun State.

24.	Nasarawa State Polytechnic, Lafia.
25.	Niger State Polytechnic, Zungeru.
26.	Nuhu Bamalli Polytechnic, Zaria, Kaduna State.
27.	Osun State College of Technology, Esa-Oke.
28.	Osun State Polytechnic, Iree.
29.	Plateau State Polytechnic, Barkin Ladi.
30.	Ramat Polytechnic, Maiduguri, Borno State.
31.	Rivers State Polytechnic, Bori.
32.	Rivers State College of Arts and Science, Rumola, Port Harcourt.
33.	Rufus Giwa Polytechnic, Owo, Ondo State.
34.	Sokoto State Polytechnic, Sokoto.
35.	Taraba State Polytechnic, Jalingo.
36.	The Polytechnic, Ibadan, Oyo State.
37.	The Polytechnic, Ijebu Igbo
38.	Yobe State Polytechnic, Geidam.

APPENDIX 12

<div align="right">19th August, 2013</div>

Oluwole Adeniyi Solanke,
c/o University of Southampton,
UK.

Dear Sir,

<div align="center">

ACCEPTANCE OF ARTICLE FOR PUBLICATION
</div>

The Editorial Board is pleased to inform you that your article titled; "Diversification of Higher Education Funding" has been found publishable in its present form and thus accepts it for publication.

It shall be included in OJAST Vol. 1, which will be published very soon. We congratulate you and also appreciate your significant academic contribution and patronage.

Thank you

<div align="center">

Yours faithfully,

Dr. S. A. Ojeniyi,
Editor.
</div>