

TITLE PAGE**COMPARATIVE ANALYSIS OF HUMAN RESOURCES MANAGEMENT PRACTICES IN
PUBLIC POLYTECHNICS IN NORTH-CENTRAL GEO-POLITICAL ZONE, NIGERIA****BY****AGANA, TIMOTHY YOHANNA
NSU/EDU/Ph.D./ADP/003/15/16****A THESIS SUBMITTED TO THE SCHOOL OF POST GRADUATE
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FACULTY OF EDUCATION,
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DECLARATION

I hereby declare that this thesis has been written by me and it is a report of my research work, it has not been presented in any previous applications for Ph.D. Educational Administration and Planning. All quotations are indicated and sources of information specifically acknowledged by means of references.

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CERTIFICATION

The Thesis ‘Comparative Analysis of Human Resource Management Practices in Public Polytechnics in North-Central Geo-Political Zone, Nigeria, meets the regulation governing the award of Ph.D. in Educational Administration and Planning, Faculty of Education, Nasarawa State University, Keffi and is approved for its contribution to knowledge

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DEDICATION

This piece of work is dedicated to my parents Ada Ongah T. Agana and Ene Oguze M. Agana who saw the need to educate me.

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My sincere thanks go to almighty God (Ada-Osu-Ukpo), who protected, granted me knowledge and sustained me throughout the period of my studies in Nasarawa State University, Keffi, Nigeria.

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I wish to acknowledge the contribution of the various authorities consulted in putting this work together especially the Registrars of all the Public Polytechnics in the North-Central Geo-Political Zone, Nigeria, and all other respondents who responded to my numerous enquiries, and made relevant raw data available for the study.

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ABSTRACT

The study analyzed Human Resource Management Practices in Public Polytechnic in North Central Geo-Political Zone, Nigeria. The study was guided by four objectives, with corresponding four research questions and hypotheses. The study used cross-sectional survey research design. The total population for the study comprised of 6,228 respondents (made up of 20 Registrars, 4, 121 academic staffs and 2, 087 non-academic staff) from the 10 public polytechnics in North Central Geo-political zone, Nigeria. The sample size of this study consists of 842 respondents (20 Registrars, 408 academic staff and 414 non-academic staff) drawn from 10 public polytechnics in six (6) states that constitute North Central Geo-Political zone, Nigeria. The study used two (2) instruments for data collection. The instruments are semi-structured interview for Registrars of public polytechnics and questionnaire on Human Resource Management Practices in Public Polytechnics (QHRMPPP). The instruments were pilot tested on 5 schools and 50 staff in Federal Polytechnic Bauchi. Cronbach Alpha coefficient statistical tool of estimating reliability was used to determine the coefficient of internal consistency of the 2 instruments. The coefficient of internal consistency of 0.71 was obtained. The study found among others that difference exist between Human Resource Practices in Public Polytechnics in North Central Geo-political Zone, Nigeria, as federal polytechnics were more effective because of the adequate funds at their disposal than their state counterparts, which they normally utilize in undertaking human resource activities. The study recommended that public polytechnics in the North Central Geo-Political Zone Nigeria need to synergize with NBTE to organize workshops, seminars and symposia for all the staff of the various institutions to enable them update knowledge and skills needed for conducting and management of all Human Resource activities in their institutions.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In the past, different organizations rely more on their physical and financial assets as source of comparative advantage for achieving their objectives. At that time, human resources were simply considered as cost centres (Oladele, Fadeyibi & Abayomi, 2015). Technological innovation and globalization has changed such trend. At the moment, organizations could only compete favourably and achieve their objectives by focusing on building a sound human resource foundation as people and knowledge are the key drivers of today's world. Tertiary institutions are labour intensive and therefore largely depend on their employees for delivery of services and achievement of goals. The goals of tertiary education as contained in National Policy on Education (2013) include among others the contribution to national development through high level of relevant manpower training and developing the intellectual capability of individuals to understand and appreciate their local and external environments. In addition to the above stated goal, the policy stated the specific goals of the Polytechnic education as follows:

- i. To provide full-time or part-time courses of instructions and training in engineering, other technologies, applied science, business and management, leading to the production of trained manpower;
- ii. To provide the technical knowledge and skills necessary for agricultural, industrial, commercial and economic development of Nigeria and
- iii. To train people who could apply scientific knowledge to solve environmental problems for the convenience of man.

Staff members are central in the achievement of the statutory goals of polytechnic education. This makes human resource management an imperative issue in polytechnics. Institutions that have defined strategies on human resource management and are capable of implementing them, could gain benefits such as staff retention, improved job performance and achievement of higher job satisfaction among staff. Human resource management practices are the activities that are aimed at bringing people and organizations together to achieve targeted goals. It tries to secure the best from people by securing the cooperation of the staff. Human resource practices lead to the procurement, development and maintenance of competent workforce to achieve the goals of an organization in an effective and efficient manner (Rao, 2010). Human Resource Management practice is the philosophy, policies procedures and conducts that are related to the management of people within an organization and it encompasses a dynamic and organization-wide that is action-oriented and necessarily interrelated with strategic planning of the top executive team of an organization.

Human resources in Polytechnics consist of workers who are employed to perform different responsibilities in order to achieve the goals of polytechnic education. All polytechnic staff, that is, both academic and non-academic are usually managed by human resource department that is charged with the responsibilities of advertising, selecting, interviewing, appointing, keeping of employee records, training and placement of employees as well as making policies on human resource management. The human resource departments are controlled by human resources managers. Abolurin (2013), looked at a manager as one who controls, manages, guides or gives direction to other people in an organization. Human resource manager is an executive officer and

supervisor who is responsible for monitoring and controlling the activities of employees in polytechnics. For effective and efficient management of human resource in Nigerian Polytechnics, managers of the institutions need to integrate their managerial processes into the general management functions using the updated Gullick acronym of management functions known as POSDCORBE. The acronym represents Planning, Organizing, Staffing, Directing, Coordinating, Reporting, Budgeting and Evaluating (Macibi, 2007).

Bailey (2014) observed that human resource department in Polytechnics coordinate and regulate employees' activities through recruiting, hiring, training, assessing workers, discipline, compensation and appraisal. In a broad form, human resource management involves different activities which include organizing, planning and controlling of staff recruitment, interview, appointment, record keeping of employees, placement, training and development of employees and the formulation of policies for effective management of personnel in the workplace. Human resource management is a value function that is carried out by every Polytechnic. Effective performance of the above responsibilities entail a careful human resource planning.

Human Resource Planning is the process of assessing an organization's human resources needs in the light of organizational goals and changing conditions and making plans to ensure that a competent, motivated workforce is employed. The basic purpose of developing a human resource plan in the Polytechnics is to have an accurate estimate of the number of employees required, with matching skill requirements to meet the institutions' objectives. It provides information about the manner in which existing staff members are employed, the kind of skills required for different categories of jobs and

human resource requirements over a period of time in relation to organizational objectives. It would also give an indication of the actual time that is available to select and train the required number of additional manpower.

More specifically, human resource planning in Polytechnics required to meet the following objectives in the view of Nation Board for Technical Education (2015):

- i. To help Polytechnics to achieve their goals;
- ii. To ensure effective utilization and maximum development of human resources;
- iii. To enhance respect for human beings by identifying and satisfying the needs of workers;
- iv. To ensure reconciliation of the goals of each worker with those of the institutions;
- v. To achieve and maintain high morale among employees;
- vi. To provide the Polytechnics with well-trained and well-motivated employees;
- vii. To increase to the fullest, the employee's job satisfaction and self-actualization;
- viii. To develop and maintain a quality of work life;
- ix. To be ethically and socially responsive to the needs of the workers;
- x. To develop the overall personality of each employee in its multidimensional aspect;
- xi. To enhance employees' capabilities to perform their job effectively;
- xii. To be ethically and socially responsive to the needs of the society and
- xiii. To inculcate the sense of team spirit, team work and inter-team into workers.

Human Resources Planning in Polytechnics is useful as it prepares people for the work ahead of them, expand or contract manpower, reduce costs as it facilitates the preparation of appropriate human resource budget for each department or unit; helps in controlling

manpower costs by avoiding shortages/excesses in manpower supply, helps manpower to meet up with technological changes, occupational changes, retraining, shortage of relevant skills and knowledge and mobility (transfer, promotion, resignation, upgrading of technological, substitution of product lines and changes in product mix) the physical facilities such as canteen quarters, school medical help etc. could be planned in advance and work towards the overall success of the goals of Polytechnics.

Polytechnics plan and recruit staff based on the criteria set up by National Board for Technical Education (NBTE). Parameters for employment are made for (a) academic staff (b) administrative (c) technical staff (d) junior staff. In Polytechnics, staffing procedure begins with the management through the appropriate unit informing all budgetary units to forward their estimates in terms of their Full Time Equivalent (FTE) to the Bursary Department through the Academic Planning Unit. The Rector presides over the total budget as recommended to the Governing Council through the Financial and General Purpose Committee. The Registrar prepare and forward staff requirements for advertisement in line with the approved budget.

The recruitment procedure may be internal or external advertisement. The information officer could then forward the documents to at least two national dailies. A period of six weeks is normally given as closing date from the day of publication especially for federal Polytechnics. Applications received are forwarded to the Registrar to be processed by the registry staff. Based on the existing vacant positions to be filled, the Registrar forwards the applications to the departments and units for possible short listing of candidates. The Registrar and his staff verify that the returns are in consonance with the laid down

provisions for recruitment. Interview panels are constituted by the Registrar and other Registry Staff and forwarded to the Rector who chairs the Panel (Suleiman, 2014).

Applicants who are qualified are invited for interview on a set date that is sufficient enough to receive invitation. With the advent of the GSM, phone calls could be made to fast track certainty that such candidates received invitation on time. Interviews are conducted sometimes with the assistance of external consultant or Chief Lecturers in that area of need especially for academic applicants. The best candidates are forwarded to the chairman of the recruitment committee for vetting. Thereafter, a report is prepared to the respective Appointments and Promotions Committee (A&PC). The Rector approves the letters of appointments to be issued and A&PC ratifies such approval during its next meeting. The process of selection is a regular feature either because of staff turnover or the need for increasing staff turnover or the need to increase in staff strength as a result of increase in the number of students to be admitted as approved by the National Board for Technical Education (NBTE,2015).

After selecting the appropriate staff, an appointment letter is forwarded to successful candidates, within six weeks and they are expected to assume duty or give reason why they could not assume duty. On assumption of duty, a new staff reports to the registry for assumption formalities/documentations which includes medical test in the Polytechnic's Health Centre. He is deployed to the right office and a job description given to him. The regulations governing the conditions of service of employee are given to new staff for compliance. A new staff is integrated to the work environment through induction and orientation. The academic staff report at the School and Department respectively. The Dean and Head of Department put him through the necessary tutelage. The operating

functions already outlined forms the entire schedule of day to day functions of resource management.

Human Resource functions are concerned with a variety of activities that significantly influence almost all areas of an institution. The following are the summary of the functions of human resource management departments in all organizations including Polytechnics:

- I. Selecting job candidates
- II. Orientating and training new employees
- III. Managing wages and salaries (compensating employees)
- IV. Providing incentives and benefits
- V. Appraising performance
- VI. Communicating (interviewing, counselling, disciplining)
- VII. Training and development of staff
- VIII. Building employee commitment
- IX. Equal opportunity and affirmative action
- X. Employee health and safety
- XI. Handling grievances and labour relations

There is a great deal at stake in human resources management which is centered on workers' careers, their physical and emotional health, the effectiveness and viability of their institutions are directly influenced by the quality of the 'people practices' where they work. Changes in terminology reflect the increased significance associated with the management of people in Polytechnics as well as the broader perspective from which the

field has a strong functional focus, human resource specialists are primarily concerned with the administration of specific employees' related functions such as hiring, training, wage setting and disciplinary action. A more modern view is that all human resource functions are interrelated. Moreover, how well these functions are managed has a tremendous effect on institutions' ability to meet their overall objectives.

Individual motivation and teamwork are highly affected by this fabric of HRM policies and practices, matters of fairness and equity are central to HRM. The effective management of human resources in an institution requires the utilization of knowledge from many disciplines including social and counselling, psychology, employment law, management theory, medicine, group dynamics, philosophy, ethics, statistics and more. Human resource management is both a science and an art of creating an organizational culture that foster high morale among workers. Human resource management has to do with the integration of technology and the human/social system of an institution (Ugwuanyi, 2015).

The activities of all Polytechnics in Nigeria are controlled and regulated by National Board for Technical Education (NBTE). The standards and parameters set up by NBTE for regulating the activities of Nigerian Polytechnics whether private, state or federal are the same. Specifically, the following condition of services must be provided for all Polytechnics staff which signifies the standards for human resource management in Nigerian Polytechnics according to NBTE (2015):

- a There shall be available to the proposed programme, a full complement of teaching staff in number and mix required to teach all the courses listed in the curriculum. The number and mix of academic staff vary with the programme. On

the average, a minimum core staff of 4 lecturers and the head of department shall be required to teach a single stream of the programme at ND or HND levels. The number excludes teaching staff for General Studies and other service courses taught by other departments. It may also comprise 4 lecturers including the Head of Department and an Instructor. Generally, teaching staff will not be expected to teach for more than 15 contact hours per week. Where necessary, part-time teachers may be employed to cover some of the periods and to update the curriculum. Academic staff members are expected to possess a minimum of a good first degree or its equivalent.

- b. In the case of some professional programmes, such as Accountancy, Quantity Surveying and Banking and Finance, at least two full-time Lecturers who are professionally qualified and registered in the field should be among the staff of the department if the programme is to be offered at the HND level. At least one professional lecturer will be required for an ND programme.
- c. Academic staff for specialized HND options, for example, in engineering, science laboratory technology or in areas of business studies such as finance and banking, personnel management, production management etc. should preferably have post graduate degrees in the option they are expected to teach. In all cases, adequate post-qualification cognate experiences in industry and/or teaching are required for lecturing positions. In addition to the 4 lecturers for one option. 2 additional lecturers are required for each additional option at the HND level. Where the HND programme does not have options, a minimum of 4 lecturers are required. The number of staff excludes those for general studies which may be based on a

Staff Student Ratio (SSR) of 1:20. The mix of Principal/Chief Lecturer: Senior Lecturer: Lecturer I and below shall be 1:2:5. For double or more streams, the number of teaching staff shall be pro-rated in a ratio of 1 Lecturer to 15 students for science and technology programmes and 1 Lecturer to 20 students for management programmes.

- d. The Head of Department should be at least, a Senior Lecturer in rank in the case of an ND programme and a Principal Lecturer in rank in the case of an HND programme; and should have considerable industrial, teaching and educational management experiences, in order to be able to provide the desired professional and academic leadership. He or she should hold at least a first and second degree in the discipline of specialization.
- e. There shall be a full complement of instructional/academic staff before the first batch of students are admitted into the programme. For science, engineering and other technology programmes, each of the laboratories, workshops and ancillary facilities should be fully staffed with at least a technologist/instructor; a technician, workshop assistant and an attendant. For agricultural programmes, a farm manager/supervisor is also required. Clerical staff should consist of departmental/programme secretary or typist, a clerical officer, cleaner/messenger.
- f. Offices should be available for all academic staff of the programme. The least acceptable shall be two lecturers sharing a room. Senior Lecturers and above in rank should have individual offices.
- g. Welfare services for staff should be adequate. In terms of academic staff, these may include staff housing, health and recreational facilities and provisions for

pensions and gratuities. Only staff on essential duties may be accommodated on campus. Others may be paid housing allowances in lieu of accommodation on campus.

From the above standards, it is observed that NBTE made provisions for equal benefits for all Polytechnics staff in Nigeria irrespective of whether federal, state or private owned Polytechnics. However, there seem to be differences in human resource management practices in federal and state Polytechnics in Nigeria including those in North Central States. These differences occur due to the planning processes during recruitment exercises and funding. All federal government's agencies and parastatals which Polytechnics are included follow strictly the laid down procedures by the Federal Character commission which was established by Act No. 34, 1996. The commission is one of the federal government's policies of achieving the integration of diverse ethnic groups of the people in the country together. The federal character principle which was enshrined in the 1979 Constitution of Nigeria seeks to ensure appropriate linguistic, ethnic, religious and geographic diversity of the country. The introduction of federal character policies in Nigerian State is to foster unity, peace, equal ability to equal access to employment opportunities and promote the integration of the less advantaged states for better improvement and good conditions of living in the country (Yaw,2012).

Planning for recruitment into federal Polytechnics in Nigeria is conducted based on Federal Character Commission's rules which stipulate that job advertisements must be inserted in two major national dailies, one widely read in the southern Nigeria and the other in the northern Nigeria. Applicants must also be given at least six weeks to apply, so that applicants in tucked-away corners of the country are not disadvantaged.

Monitoring involves the constant surveillance of newspapers to keep an eye on all recruiting activities.

Where recruitments are to take place and the Federal Character Commission suspects that its rules are not being respected, intervention effort is initiated. The objective of intervention is to ward off a potential breach of the commission's rules for recruitment. In some instances, intervention is in the form of investigations launched after complaints by aggrieved parties, whether individuals or communities.

The integration of the Federal Character Commission rules into the recruitment process in federal Polytechnics gives all applicants equal opportunities irrespective of state of origin to be considered for employment. Such Compliance to rules and regulations by federal Polytechnics equally seem to provide better condition of services for staff than the state Polytechnics because federal Polytechnics always strive to meet up with the NBTE laid down standards for human resource management.

In state Polytechnics, recruitment processes do not follow the laid down policy by Federal Character Commission as preferences and considerations are given to indigenes against merit. Some states' Polytechnics are under staffed, as such, the available staff are over stressed. This deprives staff the benefits and standard condition of services spelt out by NBTE to be enjoyed by all Polytechnics staff.

The differences between the human resource management practices in the state and federal Polytechnics in Nigeria prompted the researcher to embark on this study with the aim of comparing the human resource management practices in federal and state Polytechnics in North Central States, Nigeria.

1.2 Statement of the Problem

Human Resource Planning in Polytechnics is useful as it prepares people for the work ahead of them, expand as contract manpower or reduce costs as it facilitates the preparation of appropriate human resource budget. For each department or unit. The overall goal of human resource management practices is to see that students receive educational resources through the effort of school managers.

Effective human resource management practice is necessary in polytechnics not only for provision of required human capital for national development but for smooth running of the institutions.

Preliminary findings have shown that where recruitment are to take-place in the Federal Polytechnics, the Federal Character Commission suspects that its roles are not being suspected; in the state polytechnics preferences and consideration are given to indigenes against merit.

Also, there exist variances in the practice of staff training between federal and state polytechnics opportunities are more opened to staff of federal polytechnic staff to acquire additional knowledge and skills that enhance effective performance of their jobs.

Performance improvement which is directed towards maintaining and improving current job performance are not noticeable in state polytechnic compared to Federal Polytechnics in the north-central geo-political zone, Nigeria. It was observed that employees value work according to how much the gain from it. They believe they are not well compensated. This emotional discrepancy grows, accumulates and makes them grumble as they render their services to the tertiary institutions.

Assessing and measuring the inputs of every employee with a view to knowing their strengths and weaknesses and communicating the results back to them is not also noticeable, it continues to generate extreme dissatisfaction among employees of the polytechnics. They view this as inaccurate and unfair.

It is in the light of the above aforementioned challenges, that the study was structured to compare the human resource management practices in public polytechnics of the north central geo-political zone, Nigeria.

1.3 Research Questions

The following research questions guided the study:

1. What is the difference between the recruitment process in the Public Polytechnics in North Central Geo-Political Zone, Nigeria?
2. What is the variance in the practices of staff training between Public Polytechnics in North Central Geo-Political Zone, Nigeria?
3. How does staff compensation practice differ between Public Polytechnics in North Central Geo-Political Zone, Nigeria?
4. What is the difference between the staff appraisal practice in Public Polytechnics in North Central Geo-Political Zone, Nigeria?

1.4 Objectives of the Study

The aim of the study was to explain the differences in the human resource management practices in Public Polytechnics in North Central Geo-Political zone, Nigeria. The objectives of the study include:

1. To compare the recruitment process in the Public Polytechnics in North Central Geo-Political Zone, Nigeria.
2. To determine the variation in the practices of staff training between Public Polytechnics in North Central Geo-Political Zone, Nigeria.
3. To examine the differences between the compensation practices in the Public Polytechnics in North Central Geo-Political Zone, Nigeria.

4. To compare the staff appraisal practices in the Public Polytechnics in North Central Geo-Political Zone, Nigeria.

1.5 Statement of Hypotheses

The following research hypotheses guided the study:

1. There is no significant difference in the recruitment process of human resources in the Public Polytechnics in North Central Geo-Political Zone, Nigeria.
2. Significant variation does not exist in the practices of staff training between Public Polytechnics in North Central Geo-Political Zone, Nigeria.
3. Staff compensation practice does not significantly differ in the Public Polytechnics in North Central Geo-Political Zone, Nigeria.
4. There is no significant difference in staff appraisal practices in Public Polytechnics in North Central Geo-Political Zone, Nigeria.

1.6 Significance of the Study

The findings from this study would be useful to human resource managers, staff and students of tertiary institutions, Ministry of Education, regulating bodies like National Universities Commission (NUC), National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE).

Human Resource Managers in Polytechnics would benefit from this study because the understanding of human resource management skills required for managing staff would enable them to appreciate the ethics, attributes and skills required of an administrator as well as to be equipped with the necessary abilities and competencies required for the job. Such competences include analytical competence, interpersonal competence and emotional competence.

This would result to valuable management and good subordinate relationship, employee satisfaction and commitment because opportunities for advancement and growth would be provided.

Staff and students of tertiary institutions would also benefit because human resource management skills required for personnel administration if fully identified and harnessed for the overall objective of the institution will be actualized. The staff and students would be fully accommodated for their respective activities with adequate human relationships. This would also lead to higher performance as staff and students achieve the mission and vision of the Polytechnic education.

The Ministry of Education as the body responsible for the management of tertiary institutions would benefit when human resource management skills required for managing staff are identified and practiced in the tertiary institutions because employees will be equipped for improved performance. This will enable the ministry to manage tertiary institutions more efficiently without much supervision, thereby providing an enabling environment and facilities for effective operations of tertiary institution.

The regulating bodies such as the National Universities Commission (NUC), National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE) will benefit as the task of moderating these institutions would become easier and the whole system would work in tandem with the stated objectives.

The study will be of immense benefit to future researchers and the entire field of educational management.

Nigeria as a nation will equally benefit because human capital required for national development will be provided thereby causing the nation to transform from a developing to a developed nation.

1.7 Scope of the Study

The study was aimed at comparing the human resource management practices in federal and state polytechnics in North Central States, Nigeria. The scope of the study was limited to only federal and state polytechnics in North Central States, Nigeria. The key concepts discussed in the study are staff recruitment, staff training, staff compensation, and staff appraisal.

1.8 Assumption of the Study

The following assumption were made for the purpose of the study. It is assumed that:

- ✓ Human Resource Management Practices differs between Public Polytechnics in North Central Geo-Political Zone, Nigeria
- ✓ Proper management of human resources in polytechnics would enhance staff job performance in North Central Geo-Political Zone, Nigeria.
- ✓ Public Polytechnics staff have better training opportunities than their counterparts in North Central Geo-political zone, Nigeria.

1.9 Operational Definition of Terms

The following terms have been defined operationally based on how they are used in this study:

Human Resource Management Practices: This refers to all the activities and functions such as staff recruitment, selection, training, compensation, discipline, appraisal, development, orientation and transfer that are performed by human resource department to provide a better condition of services for Polytechnics staff.

Staff Recruitment as used in this study refers to all the activities of the human resource department that are geared towards the employment of staff in polytechnics.

Staff Training is the process of making the polytechnics staff to acquire additional knowledge and skills that would enhance effective performance of their job.

Staff compensation refers to salary, wages, incentives and commission which boost staff morale and their job performance.

Staff appraisal refers to the periodical evaluation of job performance by staff to ensure that they work effectively towards the attainment of organizational targeted objectives

Comparative Analysis refers to the detailed description of the differences in the management of human resources in Federal and State Polytechnics.

North Central Geo-Political Zone, Nigeria consist of six states which are Benue,

Kwara, Kogi, Nasarawa, Niger and Plateau.

CHAPTER TWO LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Introduction

This chapter consists of the following sub-headings: Conceptual Framework, Theoretical Framework, Review of Specific Studies and Summary of Literature Review.

The study will be hinged on the following concepts:

2.1.2 Historical/Conceptual Classification of Human Resource Management

Nigeria as a developing country believes that building a knowledge-based workforce is imperative, particularly in the educational sector. This is because education contributes significantly to the development of any nation physically, morally, socially, politically and economically. The basic philosophy underlying the development of the educational system in Nigeria is that every child should have educational opportunities of their kind which would allow them exhibit abilities and skills as well as contribute meaningfully to the social and economic growth of the country (FRN, 2013). Tertiary institutions of learning including Polytechnics are vested with the responsibility of providing skilled intermediate and high-level workforce for the economy. Thus, effective management, training and development of human resources in Polytechnics is of paramount importance. They are expected to produce a capable and skilled workforce that could effectively tackle current and future challenges by providing them with technological skills as well as critical thinking abilities. Human resource refers to the individual manpower, humanity, people and society which are concerned with the running of an institution by using their aspirations, talents, needs, abilities and capacities to achieve

stated objectives. They play more essential roles in the teaching-learning situation of our tertiary institutions than other factors of production designed to attain educational goals and objectives. Human resources are the most dynamic of the entire institutions because they are active in the accumulation of wealth, exploit material resources, build social, economic and political society and carry out national development.

It is right to perceive Human Resource Management as the part of management which is concerned with ways of utilizing effectively, the organizational human resources with a purpose of achieving organizational goals as opposed to personnel administration. Personnel administration is perceived as a work force oriented and basically directed towards the employees of an organization, whereas, Human Resource Management emphasizes the importance of employee development by managers in organizations (Maicibi, 2005). Human resource is the process of identifying, acquiring, deploying and activating human resources to accomplish goal oriented tasks. Its major roles in the view of Maicibi (2005) are as follows:

- i. Designing an effective organizational structure;
- ii. Establishing work relationships;
- iii. Staffing the structure with suitable staff;
- iv. Setting up optimum working arrangements and
- v. Developing and maintaining human resource productivity.

Benabo, Ndiomu and Koroye (2011), observed that all the major practices (motivation, staffing, training and development, employee's maintenance skills) of human resource management need to be emphasized and implemented by human resource managers. Human resource is the most vital of all the resources that are at the disposal of

educational enterprises. Therefore, effective management of human resources would facilitate the achievement of the educational goals and objectives of Polytechnics. The importance of manpower to tertiary institutions cannot be over emphasized. Kwenin (2013) stated that employees are resources that should be effectively managed if organizations are to be successful. Observations indicate that the extent of managing human resources varies from one institution to another. Human resource management could be described as a strategic and coherent approach to the management of an institution's most valued assets for effectiveness and achievement of the organization's goals and objectives. In tertiary institutions, the overall goal of human resource management is to see that students receive educational services through the efforts of school managers. This implies that human resource management services of tertiary institutions are directed towards the attainment of educational objectives (student academic performance). Therefore, it is necessary that human resource managers must recruit adequate and qualified academic and non-academic staff that will be willing and able to render effective and efficient educational services to the Polytechnics. For this reason, certain procedures and steps must be taken to provide the necessary services in schools (Tijani, 2011).

These services include staff recruitment and selection, staff training and development programmes, compensation and staff welfare and, finally, performance appraisals. There is equally a need for adequate supply and utilization of staff with a view to ensuring the relevance and effectiveness of the school system. Adesina (2007) looked at human resource management as recruiting adequate and qualified staff, developing and maintaining the staff so that they would be willing and able to render effective and

efficient educational services to students. He described human resources management as being charged with attracting, motivating, retaining and developing the right number and quality of staff. In the educational system, human resource management is a strategic and coherent approach to the management of human personnel working individually and collectively to contribute to the achievement of educational goals. Adeyemi (2008) while supporting these points enumerated the functions of the school human resource manager to include responsibilities to students and staff, financial transactions, public relations and evaluation of the school's programmes.

2.1.3 The Concept of Human Resource Management

Human Resource Management is the process of bringing people and an institution together so that the goals of each would be met. It tries to secure the best from people by winning their wholehearted cooperation. Human resource management (HRM) is concerned with the "people" dimension in management. Since every institution is made up of people, acquiring their services, developing their skills, motivating them to high levels of performance and ensuring that they continue to maintain their commitment to an institution are essential to achieve the Institutional objectives. Getting and keeping good people is critical to the success of every Institution whether profit or non-profit, public or private. Institutions that could be able to acquire, develop, stimulate and keep outstanding workers will be both effective (able to achieve their goals) and efficient (expending the least amount of resources necessary)

Human Resource Management policies relate to how an institution intends to handle key aspects of people management (Armstrong, 2009). They are guides to management thinking and are used by management to achieve institutional human resource objectives. Human resource policies should be able to keep the right balance among organizational

staff, build moral, improve quality, develop teams and productivity through rewarding employees, promoting and developing them for effective organizational performance (Parker, 2008). Human resource management promotes positive work attitudes and behaviour among employees. It involves people's attitudes, feelings or thoughts towards their organization, work, and workers. Positive and favourable attitudes towards the job depict job satisfaction, whereas negative and unfavorable attitudes towards the job depict job dissatisfaction (Qasim, 2012). Human resource managers ought to understand how their workers feel and perceive their work conditions, in order to devise appropriate human resource policies and realized the best out of them.

Human Resource Management is the organizational function that deals with issues related to people such as compensation, hiring, performance management, organization development, safety, wellness, benefits, employee motivation, communication, administration, and training. It is also a strategic and comprehensive approach to managing people and the workplace culture and environment. Effective HRM enables employees to contribute effectively and productively to the overall company direction and the accomplishment of the organization's goals and objectives. Human Resource Management is moving away from traditional personnel, administration, and transactional roles, which are increasingly outsourced. HRM is now expected to add value to the strategic utilization of employees and that employee programs impact the business in measurable ways. The new role of HRM involves strategic direction and HRM metrics and measurements to demonstrate (Saleen, 2013).

Effiom (2012) stated that a Polytechnic or tertiary institutions' managers are expected to manage available human resources for optimal results, ensure effective utilization of

material resources, maintain and sustain regular flow of information among stakeholders, enhance, protect and project positive image of the institution, interpret, apply and enforce rules and regulations for the well-being of the institution and manage crisis. To be effective in fulfilling these functions, the human resource administrator must acquire skills that will not only make such school managers humane but fair, firm and fearless, focused and mission driven, purposeful and inspiring and ready to try out new ideas and methods. It is expected that a manager who acquire these skills would be equipped to provide inspiring and transparent leadership, reconcile employee difference, accommodate the different cultures and interest as well as reduce areas of conflict among workers in the tertiary institutions for a productive end, avoid discrimination among employees and things that affect relationship and hamper productivity in the tertiary institutions.

Human Resource Management is the process of getting, training, assessing, and compensating employees and maintaining labor relations, health and safety and fairness concerns (Dessler, 2008).

Armstrong (2009) gave an all-inclusive sum up of the various views of HRM as:

“A strategic and coherent approach to the management of an organization’s most valued assets: the people working there who individually and collectively contribute to the achievement of its objective.

Bernadin (2003) opined that human resources of an institution consists of all people who perform its activities. In a sense, all decisions that affect the workforce concern an institution’s human resource management function regardless of the size or existence of formal human resources management. Skilled human resource management specialists

help organization with activities related to staffing and maintaining an effective workforce. Major human resources management responsibilities include identifying or developing valid methods for selecting, staff, work design and job analysis, training and development, recruiting, compensation, team-building, performance management and appraisal and worker health and safety issues. A necessary condition for carrying out all of these functions is a thorough understanding of the legal and global environment in which these human resource management roles and responsibilities are fulfilled. Kennedy (2009) described human resource management as the process of acquiring, training, appraising and compensating employees, and attending to their labour relations, health and safety and fairness concerns. The activities of human resource planning entails conducting job analysis (determine the nature of each employee's job); planning labour needs and recruiting job candidates; Selecting job candidates; Orienting and wages and salaries (compensation employees); Providing incentives and benefits; Appraising performances; Communicating (interviewing, counseling, discipline); Training and developing managers; and Building employees commitment.

El-Kot and Leat (2008) maintained that human management is simply the part of an institution that is concerned with the 'people' dimension. It could be viewed in one or two ways. First, human resource management is a staff or support function in an institution. Its roles are to provide assistance in human resource management matters to those directly involved in rendering effective services to the institution concerned. Secondly, human resource management is a function of every manager's job. Whether or not one works in a 'formal' human management department; the fact remains that to effectively manage employees requires all managers to be able to show mastery over all

human resource activities. In other words, getting the right caliber of people by the process of recruitment to meet the organization need is not job enough. Condition has to be created which would make them stay on the job, happy on the job and cope with the demands of the job.

2.1.4 Human Resource Management Practices

There are various practices of human resource management but this study will focus on staff recruitment, staff training, staff compensation and staff appraisal.

Staff Recruitment

Recruitment refers to the strategies put up to attract potential applicants in the right quantity and quality to enable an organization to select suitable candidates to fill its needs. It is the process of announcing the existence vacancies to be filled and the strategies of getting people to register their interests to fill the vacancies (Maicibi, 2016)

Recruitment is the process of generating a pool of capable candidates applying to an organisation for employment. This suggests that applicants with experience and qualifications most closely related to job specifications may eventually be selected. Organisations become concerned when the cost of a mistake in recruitment is high. In the view of Armstrong (2009), the aim is to obtain at a minimum cost, the number of suitable and qualified candidates to satisfy the needs of the organisation. The organisation attracts candidates by means of identifying, evaluating and using the most appropriate sources of applicants. El-Kot and Leat (2008) observation is that recruitment begins with advertising of existing vacancies. Recruitment is a process of finding and attempting to attract job candidates who are suitably qualified and therefore capable of filling vacancies in job positions effectively. The purpose is to encourage them to apply for the vacant position.

Gupta (2013) affirmed that recruitment is a set of activities and processes used to legally obtain adequate number of qualified applicant at the right place and time to enable applicant and an institution to select each other for their own optimum interest.

Recruitment is the process of identifying and attracting or encouraging individuals with the requisite skills and profile (potential candidates) to apply to fill existing or future vacant positions in the organization by making them aware that such vacancies exist.

Recruitment is a process of attracting a great pool of high quality applicants to select the best among them. Recruitment is the process which starts from getting an applicant interested in a job and in a particular organization to write an application and the process stops when his application has been received in the organization.

Judging from the above various definition of recruitment as given by professional and scholars, it is apparent that recruitment borders or deals with the plan advertisement of exiting vacant position in an organization in order to woo or attract suitable and qualify applicant to apply for the vacant position or offices for employment in the said organization. Based on the above recruitment is a very specialized field in Human Resources practices as it involves techniques that will adequately identify the pool of skilled and quality applicants. An institution needs to succeed and survive or compete effectively in the global economy in this era of globalization, employers must be in the position to propound and practice recruitment and selection of employees in the best way. The success of an institution is directly linked to the performance of those who work for such an institution. Every institution has its own requirements in acquiring employees. It is vital for an institution to select people with the right quality needed for effective job performance. The only means of achieving this success is through proper recruitment and

selection practices. Recruitment plays a pivotally important role in shaping an institution's effectiveness and performance, if work institutions are able to acquire workers who already possess relevant knowledge, skills and aptitudes and are able to make an accurate prediction regarding their future abilities. Recruitment has an important role to play in ensuring worker performance and to enhance the overall positive outcomes of an institution (Ballantyne,2009).

Bratton and Gold (2007) looked at recruitment as the process of generating a pool of people capable to apply for employment to an organisation. Recruitment forms a core part of the central activities underlying human resource management: namely, the acquisition, development and reward of workers. It frequently forms an important part of the work of human resource managers designated specialists within an institution. There is an important sense in which it is the responsibility of all managers and where human resource departments exist, it may be that human resource (HR) managers who play more of a supporting advisory role to those people who will supervise or in other ways work with the new employee.

Staff Training

The most important components in the input of an administrative process in any organization is human resource. Training is one of the most important aspects of every organization which has a great impact on the effectiveness of human resource because no matter how carefully job applicants are screened before employment, definitely, a gap is always left between what employees know and what they should know (Salah & Musa, 2014). Staff training is therefore needed to fill this gap. The attention on staff training differs from one institution to another depending on the need of an organization,

management decision, technological uses, the ability and willingness of an institution to benefit from training to raise the performance, experience, skills and knowledge of employees. Staff training is inevitable for development, innovative ideas, as it makes an organization better in order to cope with both internal and external changes.

Mograbi (2008) looked at staff training as a set of activities aimed at assisting an employee to acquire new knowledge, skills and attitudes necessary for the effective performance of a specific task or job. Training in relation to the school system is the processes designed to enhance the professional knowledge, skills and attitudes of staff so that they may in turn improve the teaching and learning settings. Staff Training is an important part of staff preparation programmes, especially the aspects of teaching that are more skilled-like in their conception, but there are many other important aspects of teaching that could only be nurtured through reflective strategies and experiences. Training of staff is more likely to lead to diversity in practice at all levels of instruction. Ibrahim (2009) explained that there are several outcome areas that are potentially affected by staff training programmes. These include: staff knowledge, beliefs, teaching practice, school-level practice and student academic achievement. Training of staff provides them with knowledge, skill and ability that are relevance to the professional life of teaching profession. Staff training molds the personality of the trainee such that their attitudes are reshaped, their habits are reformed and their personality is reconstituted.

Staff training refers to the methods used to give new or present employees the skills that they need to perform their jobs effectively. The focus of staff training is performance improvement which is directed towards maintaining and improving current job performance. Hence, training is the important function that directly contributes to the

development of human resources. It is an essential part of an institution since technology develops continuously at a faster rate. Systems and practices get out- dated soon due to new discoveries in technology (Avalos, 2010). These include technical, managerial and behavioural aspects. Institutions which do not develop a system to catch up with the growing technology may become stale. However, developing individuals in the organization could contribute towards effectiveness of the staff. A good training sub-system would greatly help in monitoring the directions in which employees should develop in the best interests of an organization. A good training system also ensures that employees develop in directions congruent with their career plans. Training can provide staff with knowledge and skills to perform more effectively, preparing them to meet the inevitable changes that occur in their jobs. However, training is only an “opportunity” for learning. What is learnt depends on many factors such as the design and implementation of training, the motivation and learning style of trainees, and the learning climate of the organization.

Training is an important process because staff need to learn new knowledge and skills for effective job performance. Training is the process through which change of behaviour, knowledge and motivation of teachers could be achieved in order to improve the compatibility between the characteristics and capabilities of staff and the job requirements in the school system. Mograbi (2008) looked at staff training as the activity of running pilot programs and design it in order to develop staff collective performance with the aim of raising the level of efficiency of the organizational performance. Training of staff is a strategy by school management to create a spirit of creativity, innovation, morale and affiliation among teachers in the schoolsystem. Staff training is important as

it brings a lot of excellence factors and skills that can be owned by workers in any organization, such as: the ability to analyze situations and build initiatives to solve problems and play a positive role within the working groups. The foundations and principles of training can be summarized as; training is an essential part of the administrative development and it's a meager tool of modern management, it's considered as a basic function integrated with the functions and activities of human resource management. It is a planned, comprehensive and continues process that consists of a series of stages and steps that include designing, implementation, evaluation and follow-up of a training programme. The basic idea of training is the need to take into account the principles of efficiency, effectiveness, individual differences and continuously regeneration.

Training is a systematic acquisition and development of the knowledge, skills and attitudes required by employees to adequately perform a task or job or to improve performance in the job environment (Tharenou, Saks & Moore, 2007). It is primarily focused on teaching organizational members on how to perform their current jobs and helping them to acquire knowledge and skills they need to be effective job performers). Other scholars view training as, “a planned process to modify attitude, knowledge or skill behaviour through learning experience to achieve effective performance in any activity or range of activities (Smith, 2010). Its purpose is to develop the abilities of the individual and to satisfy the current and future needs of the organization. The definitions imply that training could translate to institutional performance.

Staff training in educational institutions is the ways in which specific knowledge and skills necessary to perform specific jobs are taught and learnt by teachers. Training refers

to the acquisition of skills, knowledge and information directly required for the performance of a specific role. It includes on-the-job training, workshops, seminars and conference. Training is any learning activity which is aimed at the acquisition of specific knowledge and skills for the purpose of an occupation or task. The focus of training is the job or task, while development is a learning activity which is directed towards future needs rather than present needs.

Staff Compensation

Maicibi (2007) asserted that staff compensation comprises a set of processes for determining, controlling and monitoring the salaries and wages paid to employers. Salary and wages administration in his view requires the following methods:

- a. Survey of the pay levels by other similar organizations;
- b. Determination of budgets for various employee categories;
- c. Job analysis and evaluation;
- d. Decision concerning salary ranges and overlaps; and
- e. Policies regarding merit and performance-related increases.

Maicibi (2007) further identified the ways of compensating staff as follows:

1. **Ad hoc:** This is when salary increment are erratically done, often at the whim of the employee rather than the initiative of an organization. There is no job evaluation, no employee appraisal, thus, pay subjectivity constitutes the major rules and regulations;
2. **Merit pay:** Here, individuals are rewarded depending on their efforts and merit. The payment is usually given after job evaluation and employee has been appraised and given performance merits;

3. **Incremental pay:** This is common in public sector like civil service and governments. Here, all staff jobs are evaluated and graded and increments are often given automatically and similarly at the end of every year; and
4. **Age-related pay:** This is an incremental scheme frequently applied to the young employees who receive pay rises of a pre-determined amount up to a certain age like 30 years. The rewards system assumes that the employees contribution to the an organization increases as he or she matures or becomes more experienced.

In an institution, employees are the key resources through which all other objectives are achieved. Staff members are the employees of the tertiary institutions and their job satisfaction could promote teaching and learning. They would demonstrate pleasurable positive attitudes when they are satisfied with their job. Thus, high job satisfaction among lecturers would increase the productivity of the tertiary education will in turn increase the overall performance of an institution. Compensation plays an important role in determining an employee's level of job satisfaction. Heathfield (2013) asserted that compensation is a fixed amount of money paid to an employee by an employer in exchange for a productive work performed. If workers believe they are not well compensated, a state of emotional dissatisfaction may develop. This emotional discrepancy grows and accumulates over time making employees to grumble as they render their services to the organization.

Compensation management is concerned with all the strategies through which an organization formulates and implements policies with the aim of rewarding people justly, fairly, equitably, but also differentially and consistently in accordance with their value to the organization. Indeed, compensation management is about understanding the

individual contribution factors and determining the level of pay bonuses and other rewards staff should receive. It thus, basically deals with the design, implementation, and maintenance of reward practices that are aimed at improving individual, team and organizational performance.

Compensation is one of the most important rewards for workers because it serves as a strong source of job satisfaction. Workers put forth extra effort on their jobs to maximize economic gains. Money remains the fundamental way that institutions reward their staff. They further stated that there is a positive significant relationship between compensation and job satisfaction. Job satisfaction is perceived as an individual's attitude and behaviour towards his job. Personal job satisfaction is an affective or emotional response towards the various facets and outcomes of one's job, meaning that personal satisfaction in relation to a job is not unitary, as a person may be satisfied with one aspect of his or her job and dissatisfied with the rest. Abayomi and Ziska (2014) maintained that in the 21st century, workers seem to pay much attention to the money they earn from their jobs than any job related factors. However, it remains unclear whether many of them would continue working, if it were not for the money they receive workers' expectations of a compensation plan are that it is fair and equitable, that it provides them with tangible rewards commensurate with their skills and further, provides recognition and livelihood. Compensation in Polytechnics is a major consideration in human resource management and how it is allocated sends a message to employees about what the institutions' believe to be important and worth encouraging. For employers, the compensation usually represents a sizeable proportion of operating costs. However, some employers view this only as a cost, while failing to consider the strategic benefits of a well-considered

compensation and benefits plan. Compensation is a critical element of human resources management system it should be designed to work together with other elements of the system (for instance, organizational goals, professional development, principal leadership, teacher recruitment and selection) to enhance performance. Money does not only help people to attain their basic needs, but it is also instrumental in providing higher level need satisfaction as observed by (Ahmed, Nawal, Iqbal, Ali, Shaukat & Usman, 2010). As a result, most employees value work according to how much they gain from it. In summary, compensation package comprises the basic pay, house allowance, commuter allowance, medical allowance and hardship allowance for those teachers working in the areas classified as hardship areas (Idemobi, Onyeizugbe&Akpunonu,2011).

Staff Appraisal

Performance appraisal is a strategic tool for improving organizational effectiveness. Performance appraisal is often used interchangeably with performance assessment, evaluations and performance review or employee appraisal. The significant role of performance appraisal in any institution is indispensable as far as a successful institution is concerned. The success of any institution depends on how well the performance of every staff is effectively appraised and managed. The performance appraisal is a unique and very important aspect of career development which entails a regular review of the performance of employees in an institution (Odunayo, Olumuyiwa, Oyinlola & Akinbode, 2014). Performance appraisal is a continuous process of assessing and measuring the inputs of every employee with a view of knowing their strengths and weaknesses and communicating the results back to the employees. Performance appraisal is an activity which includes the assessment of individual or other level of performance to

measure and improve performance that will help in attaining corporate objectives. Staff appraisal is a process that contributes to the effective management of individual staff and teams to achieve high levels of organizational performance. Mansor (2011) opined that Performance appraisal is a broad concept that covers quite a number of activities that is connected to evaluate employees and improve their capability, skill, abilities through training and adequate rewards. To get the best out of every employee, it becomes imperative for every institution to have a continuous activities or programmes that will help in reviewing their performance, competence and communication among workers.

Marsor (2011) also claimed that Performance management is a systematic way of communicating to employees on what they are expected to do and what the performance parameters are. Managers could only satisfy employees on a job if they give them what they deserve for their performance so far without making an attempt to exploit employees and pay them lower than expected. Performance appraisal through a good feedback mechanism to a large extent help employees to know how they are progressing within an organization in carrying out their duties, tasks and responsibilities, this feedback could be made available on a daily, weekly or monthly basis (Adeniji, 2011). Quite a number of challenges have been identified as confronting the effective and efficient practice of the performance appraisal system which includes the effect of reward and its turnout in commitment and loyalty of employees which triggers productivity in an organization. When employees realize that if they put in their best to the organization in carrying out their tasks and duties responsibly well, they could be promoted, have an increase in wages, better opportunities are opened to them but in situations where their performance is woeful, they attract penalties that cannot be avoided, this consciousness would push

them to strive towards putting in their best to avoid negative rewards and being more creative. Employees will begin to think outside the circle to generate ideas and which will lead to organizational productivity (Chiang & Birtch, 2010).

Performance management is a very critical approach that allows an employee to know what is expected out of him and what the performance parameters are. Managers can only satisfy employees on a job if they give them what they deserve for their performance without making an attempt to exploit employees by paying them lower than expected. In spite of the attention and resources paid to the practice, it continues to generate extreme dissatisfaction among employees and employers alike and is often viewed as inaccurate, unfair and political. If the evaluation process makes the employee feel insecure or discouraged, this singular feeling may scatter the whole evaluation process between the evaluator and the client. Feedback should be given to the workers on their overall progress within the organization (Chiang & Birtch, 2010). Such feedbacks should not be delayed but should be timely and specific. It is part of the rights of employees to know how they are progressing within the organization in carrying out their duties, tasks and responsibilities and get feedback in return which should not just be on a yearly basis but also as frequent, timely as possible. Feedbacks should be provided on a continuous basis-daily, weekly or monthly reviews (Gupta, 2013). Feedbacks leave room for improved competitive positioning. If it is done, there is the high possibility of this feedback raising an inner drive within the employee and motivating him to do more or increase his level of commitment to the organization which in turn will lead to an improved and better competitive positioning for an organization.

2.1.5 Human Resource Planning in Public Polytechnics in Nigeria

Human resource is very crucial and instrumental for organizational success and performance. The ability of employees to bring problems and success to organization depends on how they were chosen and acquired. The variability, growth and survival of any organization are tied to the ability and availability of adequate, competent and well-developed employees of the organization at the right time (Maicibi, 2016). The acquisition of these competent employees could be achieved through adequate planning for the resources to address the organizational soft and hard skills, quality and quantity respectively. The first stage of human resource management is human resource planning. Maicibi (2016) maintained that human resource planning seeks to determine the number and kinds of people the organization needs. The emphasis however, is how organization assesses the future supply of and demand for human resources.

Robert (2002) defined HRP as the process by which management ensures that it has the right personnel who are capable of completing those tasks that help an institution reach its objectives at the right time. HRP in the view of Blower (2008) is the process of anticipating future staffing needs and ensuring that a sufficient pool of talent possessing the skills and experience needed will be available to meet those needs. According to Mondy's (2008), HRP is the systematic process of matching the internal and external supply of candidates with job openings that a company anticipates over a certain period of time. HRP involves the process of identifying the number of people required by an institution in terms of quantity and quality. It is a primary activity in any institution from which the institution identifies how many people it has currently and how many people would be required in future.

However, from this perspective, Mitali (2009) then believed that HRP involves a process by which an entrepreneur determines how an organization should move its current manpower position to its desired manpower position. HRP could be also be examined on the basis of efficiency and cost as the process by which a nation here, a university ensures that it has the right number of people at the right time, doing the things for which they are economically most useful (Torrington, Hall & Taylor, 2008). HRP is integrative and systematic, embracing determination of workforce needs, employment, personnel evaluation, training and development, rewards managing people and labour relation, discipline, disengagement of labour including retirement, turnover, retention and so on (Afolabi, 2007). Thus, HRP is expected to provide a realistic and implementable framework of action that will ensure the optimum development and productive framework of action that will ensure the optimum development and productive utilization of all the HR of the nation. HRP has two components: requirements and availability while he identified factors considered as: Quantity (how many employees do we need?); Quality (which skills, knowledge and abilities do we need?); space and time (where, when and for how long do we need t he employees?). The factors influencing HPR could be grouped into internal and external. The internal factors are changes in: organization's production pattern, product demand, capital investment plans, technological and administrative changes. The external factors however include demographic trends, employee demand, competitor practices, technological change, political initiatives and social factors and enhanced customer expectations. The HRP needs to change with changing situation in the system. Therefore, HR planning systematically forecasts an institutional future demands for and supply of employees and matches supply with demand.

It involves forecasting demand and supply and addressing labour shortages and surpluses. Therefore, in HRP process, the university must know if there exist enough supply of staff, internally or externally to meet the expected demand for staff from the system (Mondy, 2008). So, the process of HR planning involves three interrelated activities/steps. These are: first, personnel (HR) requirement forecast: where the HR planning department found out department wise number of people required by the institution and qualification they must possess; second, determining personnel supply or inventory: where, record of number of people actually available in each department is taken and third is to reconcile the demand or human resource leaders need to plan for these changes and adjust overall staffing to match the system requirements. Governments around the world have come to realize the crucial role of HR in meeting the challenges of public service and global competition (Scribd, 2010).

NBTE (2014) posited that the proprietors of Polytechnics in Nigeria shall show evidence that they have adequate number of qualified staff of all categories (teaching, administrative and support) to meet the standard required and administration at the level of the institution. Federal Polytechnics seem to employ the right quantity and quality of staff than the state polytechnics because federal polytechnics recruit staff from any part of the Nigeria which gives them better advantage to have access to quality candidates than the state polytechnics which rely on indigenization policy for recruitment.

Polytechnics could 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 offers 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 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 institution that offer two and four year programmes leading to the award of National Diploma (ND) and Higher National Diploma (HND) respectively. Considering polytechnic from a vocational standpoint, Oni (2007) defined 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 (2011) 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.

The funding model of public polytechnic education in Nigeria is one of the control measures being utilized by the government as the proprietor of such institution. Such model of funding is determined by policies approved by the legislative and executive arms of the government. Currently, there is low-level of Polytechnic education funding especially the state owned polytechnics. This poor funding of state polytechnics limits its activities including human resource practice in different ways. The World Bank (2016) study reported that the problem of higher educating financing in Africa is more than the rest of the world.

Funding the polytechnics determine the kinds of human resources to be recruited and they could be maintained to facilitate the attainment of Polytechnic objectives. Federal polytechnics in Nigeria receive monthly subventions directly from the federal government which helps them promptly, adequately and regularly pay the staff salaries and other allowances thereby making the staff to be more focused and concentrate in carrying out their responsibilities with minimal threat of strike action. However, state polytechnics before now were receiving direct monthly subventions from the state governments but recently, some states have given polytechnics and other states owned tertiary institution the opportunity to generate money internally for the overall management of the schools including the human aspect of management. This has limited the human resource management of the state polytechnics in terms of human resource planning, training, compensation and staff appraisal.

There shall be available, staff conditions of service which should address welfare issues. There should be good enough to enable the institution attract and retain qualified staff from all sectors of the economy. Accommodation may be provided on campus or very near the campus for staff on essential duties. Rent subsidy may however be paid to staff who are not given accommodation by the institution. Free medical facilities for staff and their families, pensions and gratuity schemes for staff should be included in the welfare package. Teaching staff should also be provided accommodation in line with the provisions of standards for accreditation of programmes (NBTE, 2014). The above welfare and conditions of service outline by NBTE to be provided for all polytechnics staff in Nigeria seem to be fairly enjoyed by staff of the federal polytechnics than their counterparts in the state polytechnics because of the differences in funding state and federal polytechnics as earlier stated

2.2 Empirical Review/Review of Previous Studies

For the purpose of this study, the following empirical studies have been reviewed:

2.2.1 Aliyu and Kabiru (2014) conducted a study on the Assessment of Management Strategy on Staff Training and Development in Nigerian Polytechnics.

The study assessed the existence and the extent of application of management strategy on staff training and development in Nigerian Polytechnics with a view to determining how far it is from the ideal standard of staff training. The study used a population of 10,512 academic staff of total of 80 public and private Polytechnics. A sample size of 300 was randomly chosen and Chi-square test provided analysis on the survey data. The findings of the study revealed that there is no defined management strategy on staff training and development in Nigerian polytechnics and therefore the extent of application cannot be measured. The study recommended that the National Board for Technical Education (NBTE) in conjunction with the Polytechnics' management should come up with a defined management strategy on staff training and development for all Nigerian Polytechnics.

The above study was conducted in both the public and private Polytechnics but this study is focused on only the public Polytechnics. The above study used only training while this study will consider four variables which include human resource planning, training, compensation and appraisal. However, the two studies are similar in terms of T-test Statistic.

2.2.2 Ugwuanyi (2015) conducted a study on Human Resource Management Skills Required for Personnel Administration in Tertiary Institutions in Enugu State.

The major purpose of the study was to determine the human resource management skills required for personnel administration in tertiary institutions in Enugu State. Four research questions were generated and answered using the mean and four hypotheses were equally generated and tested at 0.05 level of significance using t-test statistic. The population consisted of 250 administrative staff from five government owned tertiary institutions in Enugu State while the sample size of the study consists of 85 respondents. Structured questionnaire titled Human Resource Management Skills Questionnaire was used to generate data for the study. The instrument was validated by three experts from the Department of Vocational Teacher Education, University of Nigeria, Nsukka and one Administrative Staff from Personnel Services, Registrar's Department, University of Nigeria, Nsukka. The Cronbach Alpha reliability technique was used to estimate the internal consistency of the items in the instrument and administered to human resource administrators in tertiary institutions in Anambra State. This yielded an average coefficient of 0.91. The findings showed that the four human resource management skills comprising basic skills, interpersonal (social/human relations) skills, problem solving skills and industrial relations skills were highly required for effective and efficient personnel administration in tertiary institution; that human resource administrator who exhibit these skills are better equipped to handle the enormous and challenging work carried out in tertiary institutions.

It was recommended that human resource administrators in tertiary institution should exhibit abilities in activities that are related to basic knowledge when handling a given job; adapt new approaches of handling employees, provide opportunities for employee training, basic elements involved in interpersonal relationship should be imbibed and improve productivity through peace, welfare and industrial harmony in tertiary institutions.

The above study focused on human resource management skills while this study is focused on human resource management functions. The previous empirical study was conducted in tertiary institutions while this study is limited to Polytechnics specifically the comparison between human resource management practices in state and federal Polytechnics.

Oladele, Fadeyib and Abayomi (2015) also conducted a study on Human Resource Management in Nigerian Federal and State Universities Administration in Osun-State, Nigeria. The purpose of the study was to examine the usefulness of human resource management in the administration of Nigerian University with special reference to Osun State, Nigeria. The total population of the study consisted of 2870. A sample of six 650 respondents were drawn from six public and private Universities in Osun State, Nigeria. Apart from using the secondary data, the study also used a survey to obtain relevant data from respondents using participatory survey method (PSM).

The method provided opportunity to all Registry staff to give Professional view on ways of enhancing effective human resource management in the six selected universities namely; Obafemi Awolowo University Ile-Ife, Osun State University Osogbo, Joseph Ayo Babalola University Ikeji Arakeji, Fountain University Osogbo, Adeleke University Ede and Redeemer University, Ede. A questionnaire titled Effective HRM in Osun State University (EHRMS OSUN) was used to obtain relevant information. The questionnaire has two parts. Part A: background of the respondents, while part B respondents views on strategies of enhancing effective HRM in the selected six universities. Progressive sampling technique was used to select 160 Registry Staff who were requested to list ten ways by which effective HRM could be enhanced in the six selected universities in Osun State. Regression analysis was used to test the four hypotheses formulated.

Weights were assigned to various Likert scales of Strongly Agree 5, Agree 4, Undecided 3, Disagree 2 and Strongly Disagree 1. The findings showed that there is a significant difference between the human resource management practices in Federal and state Universities in Osun State. It is also revealed that effective HRM leads to improvement in staff and students performance. It concluded that the environment of operation largely determines how much of that potential is utilised and the purpose for which it is used. It was recommended that Universities administration should invest more on human capital in order to improve quality of their workforce. It was opined that University personnel should undergo higher academic training in their area of specialties and attend regular workshops, academic conferences and seminars locally and internationally and also utilise the benefits of mentoring.

The above study was a comparative study in Universities while this study was conducted in Polytechnics. The above study used regression to test the hypotheses while this study will test the hypotheses using t-test statistic.

Omotayo, Adenike, Hezekiah and Thelma (2014) equally conducted a study on Compensation packages: a strategic tool for employees' performance and retention. The aim of the study was to examine the effect of compensation packages on employees' job performance and retention in a selected private University in Ogun State, South-West Nigeria. A model was developed and tested using one hundred and eleven valid questionnaires which were completed by academics and non-academic staff of the University. The survey adopted case study research design in which qualitative and quantitative evaluation utilized subjective approach in order to collect relevant and substantive data. The population of the study consists of 784 while the sample size consists of 106 respondents. Simple random sampling technique was adopted for this study, which is a procedure of giving every subject in a population equal chance of appearing in the selection. Research instrument adopted for data collection was a structured questionnaire focused on the variables of the survey, which were adapted from literature reviewed, salary fringe benefits and allowances; bonus and incentives. Each of the items was based on a 5-point Likert scale, which allows respondents state the potency of each of the items listed in the questionnaire. Using IBM Statistical Package for the Social Sciences (SPSS). The collected data were carefully analyzed using simple percentage supported by structural equation modeling to test the hypotheses and relationships that may exist among the variables under consideration. The results showed strong relationship between compensation packages and employees' performance and retention.

The summary of the findings indicates that there is strong correlation between the tested dependent and independent variables (salary, bonus, incentives, allowances, and fringe benefits). However, management and decision makers should endeavour to review compensation packages at various levels in order to earn employees' satisfaction and prevention of high labour turnover among the members of staff.

Odunayo and Olumuyiwa (2014) conducted a study on Modelling the Relationship between Performance Appraisal and Organizational Productivity in Nigerian Public Sector. The study concentrates on 'what', 'why' and 'how' as the factors generate extreme dissatisfaction among employees and employers. Descriptive survey design method was adopted with the use of questionnaire distributed to the management and staff of some selected public sectors in Lagos State, South-West, Nigeria out of which 254 representing 85 % were valid for the research. The questionnaire was structured into four sections. The study pointed that if managerial decisions are fair and just with equitable reward and promotion for job done, it will increase employees' commitment and loyalty in the organization. In the same vein, if employees were properly motivated with the necessary and adequate training needs, innovation would increase rapidly on the job and this will thereby lead to competitive positioning. In addition to this, employees agreed that if they got regular feedbacks about their performance on the jobs, it could secure competitive positioning for the organization. As this will help them to identify their strengths and weaknesses which could invariably produce opportunities to the organization they are working with and threat to their competitors.

2.3 Theoretical Framework

2.3.1 Introduction

The study was anchored on two theories which are Human Resource Management Model developed by American Society for Training and Development (ASTD, 1983) and Resource-Based View Theory by Jay Barney (1991).

2.3.2 Human Resource Management Model by American Society for Training and Development (1983)

The model which provided the focus for the understanding of human resource management was developed by the American Society for Training and Development (ASTD) in 1983. ASTD identified nine human resource areas. The output of this model is quality of work life, productivity and readiness for change. The nine areas have been termed spokes of the wheel in that each area impacts on the human resource outputs; quality of work life, productivity and readiness for change. Figure 1 below is a representation of the model and the focus of each spoke. The nine human resource areas identified by ASTD (1983) in its study are as follows:

1. Training and Development
2. Organization and Development
3. Organization/Job design
4. Human Resource Planning
5. Selection and Staffing
6. Personnel Research and Information Systems

7. Compensation /Benefits
8. Employee Assistance
9. Union / Labour Relations

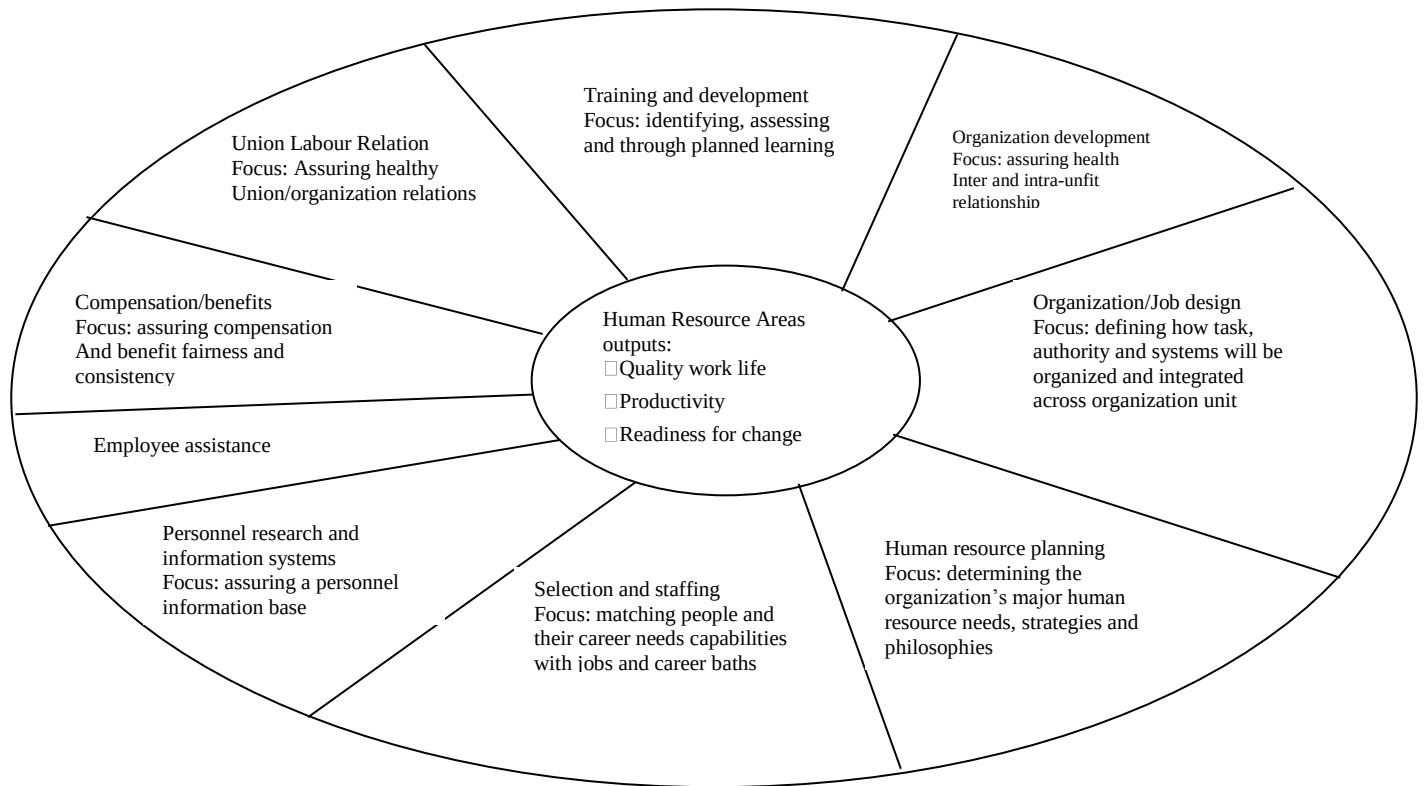


Fig 1: American Society for Training and development Model for Excellence (1983)

A useful way to describe human resources management based on the above model is in process-system terminology. The significance of the process-systems view is that it recognizes the interdependence of HRM components with all other aspects of management in an organisation. A process is an identifiable flow of interrelated events moving towards some goals, consequence or end. An example in human resource management is the staffing process, a flow of events that results in the continuous filling of positions within an organisation. The events normally include such activities as recruiting applicants, making hiring decisions and managing career transitions such as transfer and promotions. These include;

A system on the other hand, is a particular set of procedures or devices designed to manage a process in a predictable way. The staffing system of a given institution advertisement for vacant positions, interviews, reference checks, a six-month probationary period, a procedure for posting job openings within the organisation and procedure for posting job openings within the organisation and procedure for applying for job transfer.

Relevance of Human Resource Management Model by American Society for Training and Development to this Study

From the above model, human resource management practice is portrayed as the systematic planning, development and control of a network of interrelated processes affecting and involving all members of an institution. Human Resource Planning is the process of assessing the Polytechnics' human resource needs in the light of their goals and changing conditions by making plans to ensure that a competent, motivated workforce is employed. The basic aim of having a human resource plan in the Polytechnics like other institutions is to have an accurate estimate of the needed number of employees that will match the required skills and meet the institutional objectives. It provides information about the manner in which existing staff are employed, the kind of skills required for different categories of jobs and human resource requirements over a period of time in relation to the objectives of an institution. It would also give an indication of the lead time that is available to select and train the required number of additional manpower.

More specifically, HR planning is required in Polytechnics to meet the objectives of forecasting the staff requirements, cope with changes, develop strategies for effective utilization of existing manpower productively and promote employees in a systematic manner. Human Resources Planning is highly important and useful in Polytechnics system as it offers the benefits reservoir of talent; prepare people for future needs of an institution, expand or contract manpower, cutting of costs as it facilitates the preparation of appropriate HR budget for each department or division; helps in controlling manpower costs by avoiding shortages/ excesses in manpower supply, technological changes, occupational changes, retraining, shortage of relevant skills and knowledge and mobility (transfer, promotion, resignation, upgrading of technological, substitution of product lines

and changes in product mix) the physical facilities such as canteen quarters, school medical help etc can be planned in advance, prepares the organisation for succession planning. The necessities of HRP include changes in environment, organisation, replacement against deficiencies and employment of surplus manpower and stability of employment.

2.3.3 The Resource-Based View (RBV) by Jay Barney (1991)

The Resource-Based View emphasizes the firm's resources as the fundamental determinants of competitive advantage and job performance. It adopts two assumptions in analyzing sources of competitive advantage in an organization. Firstly, the theory assumed that firms within an industry (or within a strategic group) may be heterogeneous with respect to variety of human resources that they control. Secondly, it assumed that human resource heterogeneity may persists over a period of time because the resources used to implement organizational policies are not perfectly mobile across different organizations (i.e., some of the resources cannot be traded in factor markets and are difficult to accumulate and imitate). Resource heterogeneity (or uniqueness) is considered a necessary condition for a resource bundle to contribute to a competitive advantage. The argument goes "If all firms in a market have the same stock of resources, no strategy is available to one firm that would not also be available to all other firms in the market". The RBV is an efficiency-based explanation of performance differences among staff in different organizations. The differences in staff job performance could be derived from reward and motivational differentials given to staff that could intrinsically determine the levels of their job effectiveness. The assumed heterogeneity and immobility are not however, sufficient conditions for sustained competitive advantage. According to Barney

(1991), an organizational human resource strengths could be valuable, maintained and motivated to ensure the attainment of organizational goals. The resource-based view has contributed to the explanation and prediction of the sustainability of competitive advantage by identifying the conditions that entail sustainability of human resource principle, the exogenous value, the neglect of the environment, the condition of heterogeneity and the behavioral assumption underlying the condition of non-imitability which facilitates effective functioning of human resources.

Priem and Butler argued Barney's (1991) statement that "if human resource is valuable and rare, then it can be a source of competitive advantage" if the concepts 'valuable' and 'competitive advantage' are defined in the same terms. Priem and Butler (2001) identified a second important problem, namely the exogenous nature of value in the RBV. In his response to Priem and Butler, Barney (2001) acknowledged that the determination of the value of a firm's resource is exogenous to the resource-based theory presented in his 1991's study. Resource-Based View has contributed very little to the explanation or prediction of competitive advantage and recommended that scholars address core connections between resources and the environment because, while resources represent what can be done, the competitive environment represents what must be done to compete effectively in satisfying customer needs. RBV needs does not need to restrict its domain of application to the firm because it may in fact add some more fine-grained analysis to the understanding of industry-level competitive dynamics, for instance, by directing attention to the resources that underlie barriers to mobility and entry. Thus, bringing together the firm's resources and the competitive environment in a

single framework could help to understand how human resources contribute to organizational performance and how resources influence competitive dynamics.

Resource-Based research “has emphasized the lack of ability of imitators or rivals to erode the market position of a firm as a necessary condition for sustainability, implicitly assuming that any rival capable of eroding the position will do so and cannot be restrained from pursuing that course of action.

The Relevance of Resource-Based View (RBV) to this Study

The theory focused on the resources available to different organizations which help them to formulate and implement human resource management policies differences. It is an efficiency-based explanation of performance differences among staff in different organizations. The differences in staff job performance could be derived from reward and motivational differentials given to staff that could intrinsically determine the levels of their job effectiveness. In relation to this study, staff members in federal and staff Polytechnics are compensated, trained, recruited and appraised in differently and this seem to give federal Polytechnics staff better advantage over their counterparts in State Polytechnics whom their allowances are sometimes withheld due to limited funds available for running the affairs of the institutions. The performance of staff in Federal Polytechnics also is better than that of the state polytechnics because the staff members are trained on regular basis which help them to acquire the requisite knowledge and skills they require for efficient job performance.

2.4 Summary of Literature Review

The study was anchored on Human Resource Management Model developed by American Society for Training and Development (ASTD, 1983) and Resource-Based View Theory by Jay Barney (1991). The study discussed the concepts of human resource management, staff recruitment, staff training, staff compensation and staff appraisal.

The following empirical studies have been reviewed:

Aliyu and Kabiru (2014) conducted a study on the Assessment of Management Strategy on Staff Training and Development in Nigerian Polytechnics; Ugwuanyi (2015) conducted a study on Human Resource Management Skills Required for Personnel Administration in Tertiary Institutions in Enugu State; Omotayo, Adenike, Hezekiah and Thelma (2014) conducted a study on Compensation packages: a strategic tool for employees' performance and retention and Odunayo and Olumuyiwa (2014) conducted a study on Modelling the Relationship between Performance Appraisal and Organizational Productivity in Nigerian Public Sector. The only comparative study from the reviewed of empirical studies was conducted in Universities. As a result, this study is unique in the sense that it will assess the comparison between the human resource management practices in state and federal polytechnics in North Central States, Nigeria.

CHAPTER THREE RESEARCH METHODOLOGY

Introduction

This chapter consists of research design, population of the study, sample and sampling technique, research instrument, validation of instrument, reliability of instrument, administration of instrument and procedures for data analysis.

3.1 Research Design

The study used cross-sectional survey research design. Cross-sectional survey research design involves a cross section of the subjects of varying ages and levels being sampled at the same time over a given issue (Uzoечи, 2015). It is suitable for this study because respondents that constituted the population for the study varies in terms of age, academic qualification, teaching experience, ethics background, opinions and views; and all of them share common characteristics as polytechnics staff.

The study was focused on the assessment of the differences in the human resources management practices between the Federal and State Polytechnics in North Central States of Nigeria.

3.2 Population of the Study

The total population of this study was 6, 228, consisted of 20 Registrars, 4121 academic staff and 2087 non- academic staff from the Public Polytechnics in the North Central Geopolitical Zone Nigeria. Registrars constitute part of the population of the study because they are at the forefront of making policies and decisions that would either influence human resource management practices positively or negatively.

The Registrars were interviewed using the semi-structured interview designed by the researcher for the purpose of obtaining qualitative data for the study. The total numbers of Public Polytechnics in the North Central Geopolitical Zone at the time of this study are 10 (4 Federal and 6 State Polytechnics). See Table 1 below for details of the distribution of population of the Study by registrars, academic and non-academic staff:

Table 1
Distribution of Population of the Study by Chief Executives, Academic and Non-Academic Staff

S/N	Name of Polytechnics	Registrars	Academic Staff	Non-Academic Staff
1.	Federal Polytechnic, Bida, Niger State	2	580	302
2.	Federal Polytechnic, Idah, Kogi State.	2	485	274
3.	Federal Polytechnic, Offa, Kwara State	2	542	275
4.	Federal Polytechnic Nasarawa, Nasarawa State.	2	624	266
5.	Benue State Polytechnic, Ugbokolo, Benue State	2	258	186
6.	Kogi State Polytechnic, Lokoja Kogi State	2	345	168
7.	Kwara State Polytechnic, Ilorin, Ilorin	2	290	183
8.	Nasarawa State Polytechnic, Lafia	2	236	98
9.	Niger State Polytechnic Zungeru, Niger State	2	306	125
10.	Plateau State Polytechnic, Barkin Ladi, Plateau State	2	455	210
Total		20	4121	2087

Source: Panning and Establishment Units of the various Polytechnics, (2017).

Sample and Sampling Technique

The total sample size of this study consists of 842 respondents (20 registrars, 408 academic staff and 414 non-academic staff) out of the population of 6, 228 drawn from 10 Polytechnics in 6 states that constitutes North Central Geo-Political Zone, Nigeria. In the first phase, the respondents of the study were stratified based on the Registrars, academic and non-academic staff respectively.

In the second phase, purposive sampling technique was used to select the Registrars in the Establishment Unit from each of the 10 Polytechnics in North Central Geo-Political zone, Nigeria. The Registrars were chosen because the researcher believed that they have better understanding of the human resource management practices than the other staff in the establishment units and other Registrars as well. However, simple random sampling technique was used to select the academic and non-academic staff based on 30 % using the lucky-dip method of simple random sampling technique. 30% was seen as the representative of total population in order. Nworgu (2006) asserted that the use of simple percentage for determining sample size for a study must be the true representative of the total population.

See Table 2 below for details of the distribution of sample of the study by heads of establishment units, academic and non-academic staff:

Table 2**Distribution of Sample of the Study by Registrars, Academic and Non- Academic Staff:**

S / N	Name of Polytechnics	Numbers of Registrars	Sample Size of Registrars (Purposive Sampling)	Numbers of Academic Staff	Sample Size of Academic Staff 10%	Numbers of Non- Academic Staff	Sample Size of Non- Academic Staff 20%
1 .	Federal Polytechnic, Bida, Niger State	2	2	580	58	302	90
2 .	Federal Polytechnic, Idah, Kogi State.	2	2	485	48	274	82
3 .	Federal Polytechnic, Offa, Kwara State	2	2	542	54	275	82
4 .	Federal Polytechnic Nasarawa, Nasarawa State.	2	2	624	62	266	79
5 .	Benue State Polytechnic, Ugbokolo, Benue State	2	2	258	25	186	55
6 .	Kogi State Polytechnic, Lokoja Kogi State	2	2	345	34	168	50
7 .	Kwara State Polytechnic, Ilorin	2	2	290	29	183	54
8 .	Nasarawa State Polytechnic, Lafia	2	2	236	23	98	29
9 .	Niger State Polytechnic Zungeru, Niger State	2	2	306	30	125	37
10	Plateau State Polytechnic, Barkin Ladi	2	2	455	45	210	42
Total		20	20	4121	408	2087	414

Source: Field Survey, 2019**3.3 Methods for Data collection**

The study used 2 instruments. The instruments are ‘semi-structured interview for Registrars of Public Polytechnics designed by the researcher and questionnaire on Human Resource Management Practices in Public Polytechnics (HMRPPP) that was also developed by the researcher. The semi-structured interview was used to obtain qualitative data through face-face interview with the Registrars by the researcher. The semi-structured interview contained a set of eight questions.

The questions were not structured to enable the respondents give their opinions without limitation on the human resource management practices in their various Polytechnics.

Public Polytechnics (QHRMPFSP). It was administered to the academic and non-academic staff to survey their opinions on the human resource management practices in Public Polytechnics in North Central Geo-Political zone, Nigeria. The questionnaire contained two sections. Section A sought information on the bio-data of the respondents. Such bio-data information includes years of working experience and where. (whether at Federal or State Polytechnic). Section B consists of 28 items constructed based on Likert's 5-point rating scale given as follows: SA=strongly Agree (5), Agree (4), D=Disagree (3), SD= Strongly Disagree (2) and U= Undecided (1).

3.3.1 Validation of the Instrument

The two instruments were validated by an expert from Measurement and Evaluation who checked for comprehensiveness, appropriateness and relevance. The aim of the validation was to determine the validity index of the instruments. The rating scale yielded 0.80 and 0.75 as indices of validity for both 'semi-structured interview for Registrars of Public Polytechnics and Questionnaire on Human Resource Management Practices in Public State Polytechnics (QHRMPPP) respectively.

3.3.2 Reliability of the Instrument

The instruments were pilot tested on a small portion of the population that were not part of the sampled respondents. The instruments were pilot tested in 5 schools and 50 staffs in Federal Polytechnic Bauchi, Bauchi State. The aim of the pilot testing was to determine the reliability co-efficient of the instruments. Cronbach Coefficient Alpha statistical tools was employed to compute the coefficient of internal consistency.

The coefficient of internal consistency of 0.71 was obtained for the instruments.

3.3.3 Administration of the Instrument

The researcher visited the sampled public polytechnics in North Central Geo-political Zone, Nigeria to administer the instruments with a view to collecting relevant data, with the help of research assistants who were earlier screened, selected and tutored for this specific purpose and task. With a letter of introduction from the university 842 instrument developed by the research tagged Human Resource Management Practice in Public Polytechnics (HRMPPP) were administered to respondents on wait-and-take basis, 745 instruments were retrieved and 79 were not retrieved.

Therefore, 745 became the sample size used for data presentation and analysis in chapter four.

The Registrars of the sampled Polytechnics also supplied relevant information on Human Resource Management practices of their various institutions, via face-to-face semi-structured interview procedure.

3.4 Technique for Data Analysis and Model Specification

Descriptive statistics of Mean and Standard Deviation were used to answer the research questions while t-test statistic was used to test the formulated null hypotheses at 0.05 level of significance. The t-test is suitable for data analysis when comparing two different variable and data involved is parametric in nature (Kukwi, 2015).

3.5 Justification of Methods

All the methods/techniques adopted in the study (the cross sectional research design, the purposive and simple random sampling technique, the instrumentation, and descriptive statistical tools of mean, standard deviation and t-test) were all rationalized and validated and so justifiable for use in the study.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

Introduction

This chapter discuss the presentation and analysis of data in the order of research questions and hypotheses posited in chapter one. Descriptive statistics (weighted mean and standard deviation) were used to answer all the research questions; while t-test statistics was employed to test the null hypotheses.

4.1 Data Presentation

Analysis of Research Questions

All the research questions were answered using mean and standard deviation. The results is presented on Tables 3 to 6 below:

Table 3 shows that item 1 has the mean score of 3.99 and standard deviation of 1.19, item 2 has the mean score of 3.97 and standard deviation of 1.15, item 3 has the mean score of 4.02 and standard deviation of 1.68, item 4 has the mean score of 4.18 and standard deviation of 1.09, item 5 has the mean score of 3.80 and standard deviation of 0.75 while item 6 has the mean score of 3.96 and standard deviation of 1.02. The cluster mean of 4.08 is above the scale mean of 1.10, as a result, it is accepted that there is high level of difference between the practice of recruitment process in Public Polytechnics in North Central Geo-Political Zone, Nigeria.

Research Question 2: What is the variation between the staff training practice in Public Polytechnics in North Central Geo-Political Zone, Nigeria?

Table 4

Mean and Standard Deviation Analysis Showing the Variation between the Staff Training Practice in Public Polytechnics in North Central Geo-Political Zone, Nigeria.

S/N	ITEM S	SA	A	D	SD	U	$\bar{X}$	Std .6	Decision
7	There is special annual staff training programme for Federal Polytechnics staff than their counterparts in the State Polytechnics.	298	275	70	77	25	3.99	1.10	Accepted
8	All newly employed staff of the Federal Polytechnics are subjected to undergo compulsory induction courses as part of training while State Polytechnics do not.	70	200	190	285	0	2.49	0.58	Rejected
9	State Polytechnics do not have definite strategies for staff training like Federal Polytechnics.	117	100	165	350	13	2.48	0.52	Rejected
10	Resources allocated for staff training are accessible by Federal Polytechnic staff than their counterparts in the State Polytechnics.	305	280	65	90	5	3.24	2.65	Accepted
11	Federal Polytechnics review their staff training policies periodically to suit the current technological situations than the State Polytechnics.	378	155	100	111	1	4.07	1.12	Accepted
12	Federal Polytechnics incorporate an innovation form of Information Technology (IT) into all aspects of staff training programme than the State Polytechnics.	305	265	110	55	10	4.07	0.99	Accepted
Cluster Mean							3.45	0.74	Accepted
Scale Mean 3.00									

Table 4 indicates that item 7 has the mean score of 3.99 and standard deviation of 1.10, item 8 has the mean score of 2.49 and standard deviation of 0.58, item 9 has the mean score of 2.48 and standard deviation of 0.52, item 10 has the mean score of 3.24 and standard deviation of 2.65, item 11 has the mean score of 4.07 and standard deviation of 1.12 while item 12 has the mean score of 4.07 and standard deviation of 0.99. It is observed from the above analysis that the cluster mean of 3.45 is above the scale mean of 3.00, therefore, it is accepted that variance exist in staff training of Public Polytechnics in North Central Geo-Political Zone, Nigeria.

Research Question 3: How does staff compensation practice in Public Polytechnics in North Central Geo-Political Zone, Nigeria?

Table 5
Mean and Standard Deviation Analysis Showing Staff Compensation Practice in Public Polytechnics in North Central Geo-Political Zone, Nigeria

S/N	ITEM S	SA	A	D	SD	U	$\bar{X}$	Std .6	Decision
13	Federal Polytechnics receive better incentives than their counterparts in the State Polytechnics.	255	288	85	107	10	3.90	1.07	Accepted
14	Federal Polytechnic staff members receive higher salary than their counterparts in State Polytechnics.	100	205	100	310	30	2.45	0.50	Rejected
15	Federal Polytechnic staff members receive higher salary than their counterparts in State Polytechnics.	317	100	65	248	15	3.61	1.37	Accepted
16	Improved conditions of services are made available to Federal Polytechnics staff than the State Polytechnics staff.	285	240	170	45	5	4.01	0.95	Accepted
17	Several allowances of the State Polytechnics staff are withheld by the State government than their counterparts in Federal Polytechnics.	342	208	145	45	3	4.12	0.71	Accepted
18	Federal Polytechnics staff members receive bonuses on regular basis than the State Polytechnics staff.	355	225	109	55	1	4.18	0.95	Accepted
Cluster Mean							3.60	0.77	Accepted
Scale Mean 3.00									

Table 5 reveals that item 13 has the mean score of 3.90 and standard deviation of 1.07, item 14 has the mean score of 2.45 and standard deviation of 0.50, item 15 has the mean score of 3.61 and standard deviation of 1.37, item 16 has the mean score of 4.01 and standard deviation of 0.95, item 17 has the mean score of 4.12 and standard deviation of 0.71 while item 18 has the mean score of 4.18 and standard deviation of 0.95. It is observed from the above analysis that the cluster mean of 3.60 is above the scale mean of 2.50, therefore, it is accepted that staff

compensation practice in Federal Polytechnics differ from that of the States' Polytechnics in North Central States, Nigeria.

Research Question 4: What is the difference between the process of staff appraisal in Public polytechnics in North Central Geo-Political Zone, Nigeria?

Table 6
Mean and Standard Deviation Analysis Showing Comparison of the Process of Staff Appraisal Practice in Public Polytechnics in North Central Geo-Political Zone, Nigeria

S/N	ITEM S	SA	A	D	SD	U	Mean $\bar{X}$	Std .6	Decision
19	Federal Polytechnics identify the weaknesses and strengths of their staff through staff period staff evaluation than the State Polytechnics.	355	250	60	63	17	4.16	1.04	Accepted
20	Federal Polytechnics promptly communicate appraisal results to their staff than the State Polytechnics.	350	295	50	45	5	4.26	0.88	Accepted
21	Federal Polytechnics assess the progress of their staff through appraisal than the State Polytechnics.	340	250	75	45	10	4.06	1.21	Accepted
22	Measurement of staff performance is conducted on regular basis by Federal Polytechnics than the State Polytechnics.	285	240	170	45	5	4.01	0.95	Accepted
23	Staff evaluation is an effective tool used by Federal Polytechnics to recommend staff for training than the State Polytechnics.	302	248	140	53	2	3.70	0.95	Accepted
24	State Polytechnics undertake periodic review of their staff assessment policies than the Federal Polytechnics.	305	275	102	53	10	4.09	0.97	Accepted
Cluster mean							3.53	0.79	Accepted
Scale Mean 3.00									

Table 5 reveals that item 19 has the mean score of 4.16 and standard deviation of 1.04, item 20 has the mean score of 4.26 and standard deviation of 0.88, item 21 has the mean score of 4.06 and standard deviation of 1.21, item 22 has the mean score of 4.01 and standard deviation of 0.95, item 23 has the mean score of 4.07 and standard deviation of 0.95 while item 24 has the

mean score of 4.09 and standard deviation of 0.97. It is observed from the above analysis that the cluster mean of 3.53 is above the scale mean of 2.50, therefore, it is accepted that differences exist between the process of staff appraisal practice in Federal and State polytechnics in North Central States of Nigeria.

4.2 Data Analysis and Results

Testing of Hypotheses

The following hypotheses were tested using independent t-test statistics at 0.05 level of significance.

Hypothesis 1: There is no significant difference in the practice of recruitment process of human resources in Federal and State Polytechnics in North Central States of Nigeria.

Table 7
t-test Statistic Showing Significant Difference in the Practice of Recruitment Process of Human Resources in Public Polytechnics in North Central Geo-Political Zone, Nigeria.

Variable	$\bar{X}$	Std. Dev.	Df	Level of Sig.	t-cal	t-crit
Recruitment Process of Human Resources in Federal Polytechnics	3.72	0.88	743	0.05	3.65	1.96
Recruitment Process of Human Resources in State Polytechnics	3.25	0.65				

p|0.05, significant

Table 7 shows that the mean value of the recruitment process of human resources in Federal Polytechnics is 3.72 with the standard deviation of 0.88 while the mean value and standard deviation of recruitment process of human resources in State Polytechnics are 3.25 0.65 respectively. The results further indicated that the t-calculated value is 3.65 while the t-critical value is 1.96 at degree of freedom of 743 and 0.05 level of significance. Since the t-calculated value of 3.65 is greater than the t-table value of 1.96, the test statistic is significant. Hence, the null hypothesis was rejected indicating that there is a significant difference in the recruitment process of human resources in Public Polytechnic in North Central Geo-Political Zone, Nigeria.

Hypothesis 2: Significant variation does not exist in staff training practice in the Federal and State Polytechnics in North Central States of Nigeria.

Table 8
t-test Statistic Showing Significant Variation in Staff Training Practice in Public Polytechnics in North Central Geo-Political Zone, Nigeria.

Variable	$\bar{X}$	Std.Dev.	Df.	Level of Sig.	t-cal.	t-crit.
Staff Training in Federal Polytechnics	3.55	0.78	743	0.05	3.15	1.96
Staff Training in State Polytechnics	3.35	0.59				

p|0.05, significant

Table 8 reveals that the staff training in Federal Polytechnics has the mean value of 3.55 with the standard deviation of 0.78 while the staff training in state Polytechnics has the mean value of 3.35 and standard deviation of 0.59. The results also showed that the t-calculated value is 3.15 while the t-critical value is 1.96 at degree of freedom of 743 and 0.05 level of significance. Since the t-calculated value of 3.15 is greater than the t-table value of 1.96, the test statistic is significant. Hence, the null hypothesis was rejected indicating that there is a significant variation in staff training practice in the Federal and State Polytechnics in North Central States, Nigeria.

Hypothesis 3: Staff compensation does not significantly differ in the Public Polytechnics in North Central Geo-Political Zone, Nigeria.

Table 9
t-test Statistic Showing Significant Difference of Staff Compensation practice in Public Polytechnics in North Central Geo-Political Zone of Nigeria.

Variable	$\bar{X}$	Std.Dev.	Df.	Level of Sig.	t-cal.	t-crit.
Staff Compensation in Federal Polytechnics	3.28	0.75	743	0.05	3.46	1.96
Staff Compensation in State Polytechnics	2.85	0.70				

p|0.05, significant

Table 9 shows that the staff compensation practice in Federal Polytechnics has the mean value of 3.28 with the standard deviation of 0.75 while staff compensation practice in state Polytechnics has the mean value of 2.85 and standard deviation of 0.70. The results equally revealed that the t-calculated value is 3.28 while the t-critical value is 1.96 at degree of freedom of 743 and 0.05 level of significance. Since the t-calculated value of 3.46 is above the t-table value of 1.96, the t-test statistic is significant. Hence, the null hypothesis was rejected implying that there is a significant difference in staff compensation in the Public Polytechnics in North Central Geo-Political Zone, Nigeria.

Hypothesis 4: There is no significant difference in the process of staff appraisal practice in the Public Polytechnics in North Central Geo-Political Zone, Nigeria.

Table 10
t-test Statistic Showing Significant Difference in the Process of Staff Appraisal Practice in Public Polytechnics in North Central Geo-Political Zone, Nigeria.

Variable	$\bar{X}$	Std.Dev.	Df.	Level of Sig.	t-cal.	t-crit.
Process of Staff Appraisal in Federal Polytechnics	3.79	0.67				
			743	0.05	3.22	1.96
Process of Staff Appraisal in State Polytechnics	3.44	0.59				

p|0.05, significant

Table 10 indicates that the process of staff appraisal practice in Federal Polytechnics has the mean value of 3.79 with standard deviation of 0.67 while the process of staff appraisal in state Polytechnics has the mean value of 3.44 and standard deviation of 0.59. The results further showed that the t-calculated value is 3.22 while the t-critical value is 1.96 at degree of freedom of 743 and 0.05 level of significance. Since the t-calculated value of 3.22 is above the t-table value of 1.96, the t-test statistic is significant. Hence, the null hypothesis was rejected implying that there is a significant difference in the process of staff appraisal practice in the Federal and State Polytechnics in North Central States of Nigeria.

4.3 Discussion of Findings

The findings of this study indicated that significant differences exist between the human resource management practices in Public Polytechnics in North Central Geo-Political Zone, Nigeria. Specifically, the findings of the study based on Table 7 (hypothesis 1) indicated that there is a significant difference in the recruitment process of human resources in Public Polytechnics in North Central Geo-Political Zone, Nigeria because the t-calculated value of 3.65 is greater than the t-table value of 1.96. The finding of the study is in agreement with the assertion of Oladele, Fadeyib and Abayomi (2015) who submitted that there is a significant difference between the human resource management practices in Federal and state Universities in Osun State. Recruitment refers to the strategies put up to attract potential applicants in the right quantity and quality to enable an institution to select suitable candidates to fill its needs. It is the process of announcing the existence of vacancies to be filled and the strategies of getting people to register their interests to fill the vacancies.

Every recruitment exercise need to follow a gradual process, but when the processes are not carefully adhered to, it becomes difficult for an institution to recruit the right quantity and quality needed for goal attainment of an institution. It is deduced from the findings of this study that Public Polytechnics adhere to the NBTE policies on staff recruitment which help them to conduct and implement the laid down recruitment policies than the State Polytechnics. The qualitative data obtained through the interview with the Registrars demonstrated that recruitment exercise in Federal Polytechnics provide applicants irrespective of place of origin with highest experience and qualifications related to job specifications to be employed than the State Polytechnics because of the integration of Federal Character Commission rules into

the recruitment process by Federal Polytechnics. The integration of the Federal Character Commission gives all applicants equal opportunities irrespective of state of origin to be considered for employment. In State Polytechnics, recruitment processes do not follow the laid down policy by Federal Character Commission as preferences and considerations are given to indigenes against merit which sometimes influence the employment of staff with mediocre knowledge and skills.

Further, the finding of the study based on Table 8 (hypothesis 2) showed that there is a significant variation in staff training practices in the Federal and State Polytechnics in North Central Geo-Political Zone, Nigeria since the t-calculated value of 3.15 is above the t-table value of 1.96. The findings of this study contradicted the position of Aliyu and Kabiru (2014) who maintained that there is no defined management strategy on staff training and development in Nigerian Polytechnics. Staff training in Polytechnics is the ways in which specific knowledge and skills necessary to perform specific jobs are taught and learnt by staff. Training refers to the acquisition of skills, knowledge and information directly required for the performance of a specific role. It includes on-the-job training, workshops, seminars and conferences. Training is any learning activity which is aimed at the acquisition of specific knowledge and skills for the purpose of performing certain tasks. Training is one of the most important aspects of every institution which has a great impact on the effectiveness of human resource because no matter how carefully job applicants are screened before employment, definitely, a gap is always left between what employees know and what they should know. Staff training is therefore needed to fill this gap. Staff training programmes differ from one institution to another depending on the need of an institution, management decision, technological uses, the ability and

willingness of an institution to benefit from training to raise the performance, experience, skills and knowledge of employees. Staff training is inevitable for development, innovative ideas, as it makes an institution better in order to cope with both internal and external changes.

Staff training is a set of activities with the aim of assisting an employee to acquire new knowledge, skills and attitudes necessary for the effective performance of a specific task or job. Training in Polytechnics is designed to enhance the professional knowledge, skills and attitudes of staff so that they may in turn improve the teaching and learning situations. Staff training is an important part of staff preparation programmes, especially the aspects of job that are more skillful in nature. It is revealed from the findings of this study that Federal Polytechnics develop better staff training strategies and programmes which help their staff to be trained to acquire more knowledge for efficient job performance than States' polytechnics that do not have definite strategies programmes for staff training. The interview granted to the Chief Executives of the various Polytechnics revealed that resources allocated for staff training are easily accessible by Federal Polytechnic staff which give them more opportunities to receive different training programmes than their counterparts in the State Polytechnics. The primary aim of staff training is to mold the personality of the trainees such that their attitudes are reshaped, their habits are reformed and their personality is reconstituted.

Finding of hypothesis 3 (Table 9) revealed that there is a significant difference in staff compensation in the Federal and State Polytechnics in North Central practice, Nigeria as the t-calculated value of 3.46 is above the t-table value of 1.96. The findings of this study agreed with Omotayo, Adenike, Hezekiah and Thelma (2014) who

concluded that significant difference exists between staff compensation practice indices of salaries, bonuses, incentives, allowances and fringe benefits and employees' performance and retention. Compensation is one of the most important rewards for workers because it serves as a strong source of job satisfaction. Workers put forth extra effort on their jobs to maximize economic gains. Money remains the fundamental road map through which institutions reward their staff. In the 21st century, workers seem to pay much attention to the money they earn from their jobs than other job related factors. Compensation in Polytechnics is a major consideration in human resource management and if it is fairly provided, workers will be more dedicated to perform their job. As a result of the benefit which workers derive from compensation packages, most employees value work according to how much they gain from it. It is deduced from the findings of this study that through the unstructured interview administered to the Registrars of Polytechnics that several allowances and other compensation packages of the State Polytechnics staff are withheld by the state governments than their counterparts in Federal Polytechnics because some state institutions do not receive adequate funds from the government unlike the Federal Polytechnics which receive their subventions and monthly salaries directly from the federation account.

Finally, the finding of hypothesis 3 on Table 10 indicated that the null hypothesis was rejected which means that there is a significant difference in the staff appraisal in Federal and State Polytechnics in North Central Geo-Political Zone, Nigeria since the t-calculated value of 3.22 is above the t-table value of 1.96. The findings affirmed the position of Oladele, Fadeyib and Abayomi (2015) who maintained that there is a significant difference between the human resource management practices in Federal and state Universities in

Osun State. Appraisal management is a critical approach that grant employers the opportunity to assess the performance of every staff and compare it to the actual performance expected from each of the staff. Feedback is expected to be given to the workers on their overall progress by their institutions after an appraisal exercise. Such feedback should be timely and specific. It is part of the rights of workers to know how they are progressing in performing their duties, tasks and responsibilities by getting feedback from the evaluators. Performance appraisal covers quite a number of activities that are connected to evaluate employees and improve their capabilities, skills, abilities through training and adequate rewards. To get the best out of every staff, it becomes imperative for every institution to develop continuous activities or programmes that will help in reviewing performance, competence and communication among workers. A critical assessment of the information obtained from the Chief Executives of the Polytechnics indicated that evaluation of staff performance is conducted on regular basis by Federal Polytechnics which enable them to identify the weaknesses and strengths of their staff than the State Polytechnics.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

This chapter consisted of summary of major findings, conclusion, limitations, recommendations and suggestions for further studies. The chapter presented the results of the study from Tables 3-10 and discussed them with cross-references to the empirical studies in chapter 2. The conclusion and recommendations of the study were drawn based on the findings. The chapter was rounded up with two suggested areas for further research by prospective researchers.

5.1 Summary

The following are the summary of major findings of the study:

1. The findings of this study on Table 3 (research question 1) revealed that there is difference between the recruitment process in Federal and State Polytechnics in North Central States, Nigeria as the cluster mean of 3.47 is greater than the scale mean of 2.50. The findings of the corresponding hypotheses on Table 7 (hypothesis 1) indicated that there is a significant difference in the recruitment process of human resources in Federal and State Polytechnics in North Central States, Nigeria because the t-calculated value of 3.65 is greater than the t-table value of 1.96 with Federal Polytechnics adhering strictly to the process of recruitment than the State polytechnics.
2. The findings of the study on Table 4 (research question 2) further showed that there is variation in the staff training practices between Federal and State Polytechnics in North Central States of Nigeria since the cluster mean of 3.45 is greater than the scale mean of

Similar findings on Table 8 (hypothesis 2) also showed that the null hypothesis was rejected indicating that there is a significant variation in the staff training practices in Federal and State Polytechnics in North Central States, Nigeria since the t-calculated value of 3.15 is above the t-table value of 1.96 with the Federal Polytechnics organizing regular training programmes for staff than the States' Polytechnics.

3. The findings of the study on Table 5 (research question 3) implies that staff compensation practice in Federal Polytechnics differ from that of the States' Polytechnics in North Central States, Nigeria because from the analysis, the cluster mean of 3.60 is above the scale mean of 2.50. The findings of hypothesis 3 (Table 9) also exposed that there is a significant difference in staff compensation practice in Federal and State Polytechnics in North Central States, Nigeria as the t-calculated value of 3.46 is above the t-table value of 1.96 as the Federal Polytechnics receive adequate compensation than their counterparts in the States' Polytechnics.
4. Finally, the findings as shown on Table 6 (research question 4) revealed that differences exist between the staff appraisal practice in Federal and State Polytechnics in North Central States, Nigeria because the cluster mean of 3.53 is higher than the scale mean of 2.50. The corresponding hypothesis 4 on Table 10 indicated that the null hypothesis was rejected implying that there is a significant difference in the staff appraisal practice in the Federal and State Polytechnics in North Central States, Nigeria since the t-calculated value of 3.22 is above the t-table value of 1.96 with Federal Polytechnics having better methods of appraising their staff than the States' Polytechnics.

5.2 Conclusion

The following conclusions were drawn based on the findings:

Generally, the study concluded that differences exist between the human resource management practices in Federal and State Polytechnics in North Central Geopolitical Zone, Nigeria as the Federal Polytechnics were found to be more effective in human resource management practices than the State Polytechnics because of the adequate funds at their disposal which they normally utilize in undertaken the various human resource activities.

Federal Polytechnics adopt fair and equitable recruitment policies through the use of Federal Character principles that help them to conduct better recruitment activities successfully than the State Polytechnics where recruitment exercises are conducted in absence of the principles of Federal Character.

Federal Polytechnics develop better staff training strategies such as on-the-job, further education, seminars, conferences and workshops which help their staff to be trained to acquire more knowledge for efficient job performance than States polytechnics that do not have definite strategies for staff training.

Improved conditions of services in terms of bonuses and allowances using certain criteria like satisfaction of employee needs, nature of job performance, creativity, and job evaluation are easily received by Federal Polytechnic staff than their counterparts in States' polytechnics whom the states' government withhold several of their allowances.

Federal Polytechnics identify the weaknesses, strengths and progresses of their staff through regular conduct of evaluation exercises than the State Polytechnics.

5.3 Recommendations

The following recommendations have been made based on the findings of this study:

1. Since the State Polytechnics are not effective in conducting the recruitment exercise, the study recommends that the North Central States need to organize workshops, seminars and symposia for all the staff of the various institutions in the establishment units to enable them acquire the requisite knowledge and skills needed for conducting effective recruitment exercise in the Polytechnics system.
2. There is need for the National Board for Technical Education (NBTE) to mandate the State Polytechnics to completely implement the policy guidelines laid down by the board for training of Polytechnics staff in Nigeria. NBTE could undertake a periodic assessment of the training activities of every Polytechnic on annual basis to ensure that the policies are implemented by all Polytechnics so that State Polytechnics staff could be trained adequately like their counterparts in the Federal Polytechnics.
3. Since the study found out that staff in State Polytechnics are not fully compensated in terms of their salaries, bonuses, incentives, allowances and fringe benefits, the study therefore recommended that the management of the various State Polytechnics need to develop strategies such as satisfaction of employee needs, nature of job performance, creativity, and job evaluation that will help them to generate additional revenues internally to augment the monthly subventions which they receive from the governments so that they can compensate the staff adequately like their counterparts in Federal Polytechnics.

4. Management of state polytechnics should in conjunction with the regulating body (NBTE) sponsor more staff shouldered with the responsibility of staff appraisal and evaluation to annual in-house trainings to update their knowledge for efficiency and effectiveness in their jobs like their counterparts in federal Polytechnics.

5.4 Limitations of the Study

Like all other research works, this study had certain limitations. It should be noted that the study was a Comparative Analysis of Human Resource Management Practices in Public Polytechnics in North Central Geo-Political Zone, Nigeria. The negative perceptions of some Registrars to release useful data that pertains human resource activities of their respective polytechnics was a tug of war. Feeling that their managerial shortcoming would be exposed.

Also, there were constraints posed by limited finance, time, and insecurity considering the scope and location of the area of study.

5.5 Suggestions for Further Studies

The following area has been suggested for further studies by prospective researchers to replicate or further expansion of scope of the study:

- i. Further studies on human resource management practices equally need to be conducted in private Polytechnics in Nigeria.

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APPENDIXES

Appendix A

Dear Sir/Madam,

Semi-structured Interview for Polytechnics Registrars on Comparison between the Human Resource Management Practices of Public Polytechnics in North Central Geo-political Zone of Nigeria

The interview questions are designed to provide answers to research problems on the comparison between the human resource management practices in Public Polytechnics in North Central Geo-political Zone of Nigeria. The exercise is purely for academic purpose and answers given would be treated as confidential. Kindly assist the researcher with your candid views on the research problem.

Thank you.

AGANA, TIMOTHY YOHANNA
NSU/EDU/Ph.D/ADP/003/15/16

Semi-structured Interview for Registrars on Comparison between Human Resource Management Practices of Federal and State Polytechnics

- (1) What are the factors that influence the recruitment and selection process of your institution?
- (2) What methods employed by your institutions for recruiting new staff?
- (3) What are the staff training policies of your institutions?
- (4) What are the criteria for selecting staff for training in your institution?
- (5) What are the staff incentives schemes provided by your institutions?
- (6) Are there bonuses for the staff of your institutions? Under which conditions do staff have access to such bonuses?
- (7) What are the staff appraisal procedures of your institutions?
- (8) How does your institution identify the staff strengths and weaknesses?

Appendix B

Dear Respondents,

Questionnaire on Human Resource Management Practices in Federal and State Polytechnics (QHRMPFSP)

This questionnaire is designed to explain the comparison between the human resource management practices in the Federal and State Polytechnics in North Central Geopolitical Zone of Nigeria. I am a research student of Nasarawa State University Keffi, pursuing Ph.D. in Educational Administration and Planning. Please rate the following items by ticking against option that best represent your view about the human resource management practices in the Federal and State Polytechnics in North Central Geopolitical Zone of Nigeria. Note that no option is either right or wrong. The researcher is depending on your honest view and such view will only be used for the purpose of this study. To further assure you of confidentiality, you do not need to write your name. The questionnaire is in two sections. Section A contained information on the bio-data of the respondents while section B contained information on the human resource management practices in the Federal and State Polytechnics.

Yours sincerely,

AGANA, TIMOTHY YAHONNA
NSU/EDU/Ph.D/ADP/003/15/16

SECTION A - Bio-Data Information

Indicate by ticking or filling any of the options below that is applicable to you:

1. Years of Working Experience: 1 – 3 () 4 – 6 () 11 years and above ()
2. Institution Type: Federal Polytechnic () State Polytechnic ()

SECTION B – Questionnaire on Human Resource Management Practices in Public Polytechnics (QHRMPPP)

The questionnaire below consists of a list of suggested opinion on the comparison between the human resource management practices in Public Polytechnics in North Central Geopolitical Zone, Nigeria. Indicate by ticking the extent to which you consider each item relevance to the above topic as there is no right or wrong answer.

Use the five-point Likert's rating scale below: SA=strongly Agree (5), Agree (4), D=Disagree (3), SD- Strongly Disagree (2) and U= Undecided (1)

S/N	ITEMS	SA 5	A 4	D 3	SD 2	U 1
Comparison of the Recruitment Process in the Federal and State Polytechnics						
1.	Federal Polytechnics embark on nationwide advertisement to fill vacant positions than State Polytechnics.					
2.	Federal Polytechnics adopt fair and equitable recruitment policies than State Polytechnics.					
3.	Federal Polytechnics give sufficient time for candidates to apply for vacant job positions than Sate Polytechnics.					
4.	Vacant positions openly filled up through a clear recruitment process by Federal Polytechnics than State Polytechnics.					
5.	Indigenization policy is the major consideration for staff recruitment into State Polytechnics than Federal Polytechnics.					
6.	Element of national unity is integrated into the recruitment plans of the Federal Polytechnics than that of the State Polytechnics.					

Variation in Staff Training between Federal and State Polytechnics					
7.	There is special annual staff training programme for Federal Polytechnics staff than their counterparts in the State Polytechnics.				
8.	All newly employed staff of the Federal Polytechnics are subjected to undergo compulsory induction courses as part of training while State Polytechnics do not.				
9.	State Polytechnics do not have definite strategies for staff training like Federal Polytechnics.				
10.	Resources allocated for staff training are accessible by Federal Polytechnic staff than their counterparts in the State Polytechnics.				
11.	Federal Polytechnics review their staff training policies periodically to suit the current technological situations than the State Polytechnics.				
12.	Federal Polytechnics incorporate an innovation form of Information Technology (IT) into all aspects of staff training programme than the State Polytechnics.				
Differences between the Level of Staff Compensation in the Federal and State Polytechnics					
13.	Federal Polytechnics receive better incentives than their counterparts in the State Polytechnics.				
14.	Federal Polytechnic staff members receive higher salary than their counterparts in State Polytechnics.				
15.	Federal Polytechnic staff members receive higher salary than their counterparts in State Polytechnics.				
16.	Improved conditions of services are made available to Federal Polytechnics staff than the State Polytechnics staff.				
17.	Outstanding Federal Polytechnics staff members in terms of job performances are duly rewarded than those in the State Polytechnics.				
18.	Several allowances of the State Polytechnics staff are withheld by the State government than their counterparts in Federal Polytechnics.				
19.	Federal Polytechnics staff members receive bonuses on				

	regular basis than the State Polytechnics staff.					
Comparison of the Process of Staff Appraisal in the Federal and State Polytechnics						
20.	Federal Polytechnics identify the weaknesses and strengths of their staff during staff evaluation than the State Polytechnics.					
21.	Federal Polytechnics promptly communicate appraisal results to their staff than the State Polytechnics.					
22.	Federal Polytechnics assess the progress of their staff through appraisal than the State Polytechnics.					
23.	Measurement of staff performance is conducted on regular basis by Federal Polytechnics than the State Polytechnics.					
24.	Staff evaluation is an effective tool used by Federal Polytechnics to recommend staff for training than the State Polytechnics.					

Appendix C:**Dear Sir/Madam,****Validation Scale for Semi-structured Interview for Registrars and questionnaire for Academic and Non-Academic Staffs**

The attached unstructured and questionnaire have been designed for the purpose of collecting data for the study on the comparison between the human resource management practices in Federal and State Polytechnics in North Central Geopolitical Zone, Nigeria. Your views are needed for validating the unstructured interview and questionnaire appropriately for the purpose for which it is designed. Any suggestion for improving the questionnaire will be highly appreciated.

Thanks.

AGANA, TIMOTHY YOHANNA
NSU/EDU/Ph.D/ADP/003/15/16

VALIDATION SCALE

Dear Sir,

Please rate the interview below in terms of relevance for the above reason using the five-point scale shown below: Very Relevance (5), Quite Relevance (4), Fairly Relevance (3), Just Manageable (2) and Irrelevance (1).

S/N	ITEMS	VE 5	QR 4	FR 3	JM 2	I 1
1.	What are the factors that influence the recruitment and selection process of your institution?					
2.	What methods employ by your institutions for recruiting new staff?					
3.	What are the staff training policies of your institutions?					
4.	What are the criteria for selecting staff for training in your institution?					
5.	What are the staff incentives schemes provided by your institutions?					
6.	Are there bonuses for the staff of your institutions? Under which conditions do staff have access to such bonuses?					
7.	What are the staff appraisal procedures of your institutions?					
8.	How does your institution identify the staff strengths and weaknesses?					

Suggestions for improvements:

Name _____ Signature _____ Date _____

VALIDATION SCALE

Please rate the questionnaire in terms of relevance for the above reason using the five-point scale shown below: Very Relevance (5), Quite Relevance (4), Fairly Relevance (3), Just Manageable (2) and Irrelevance (1).

S/N	ITEMS	VE 5	QR 4	FR 3	JM 2	I 1
Comparison of the Recruitment Process in the Federal and State Polytechnics						
1.	Federal Polytechnics embark on nationwide advertisement to fill vacant positions than State Polytechnics.					
2.	Federal Polytechnics adopt fair and equitable recruitment policies than State Polytechnics.					
3.	Federal Polytechnics give sufficient time for candidates to apply for vacant job positions than State Polytechnics.					
4.	Vacant positions openly filled up through a clear recruitment process by Federal Polytechnics than State Polytechnics.					
5.	Indigenization policy is the major consideration for staff recruitment into State Polytechnics than Federal Polytechnics.					
6.	Element of national unity is integrated into the recruitment plans of the Federal Polytechnics than that of the State Polytechnics.					
Variation in Staff Training between Federal and State Polytechnics						
7.	There is special annual staff training programme for Federal Polytechnics staff than their counterparts in the State Polytechnics.					
8.	All newly employed staff of the Federal Polytechnics are subjected to undergo compulsory induction courses as part of training while State Polytechnics do not.					
9.	State Polytechnics do not have definite strategies for staff training like Federal Polytechnics.					

10.	Resources allocated for staff training are accessible by Federal Polytechnic staff than their counterparts in the State Polytechnics.					
11.	Federal Polytechnics review their staff training policies periodically to suit the current technological situations than the State Polytechnics.					
12.	Federal Polytechnics incorporate an innovation form of Information Technology (IT) into all aspects of staff training programme than the State Polytechnics.					
Differences between the Level of Compensation in the Federal and State Polytechnics						
13.	Federal Polytechnics receive better incentives than their counterparts in the State Polytechnics.					
14.	Federal Polytechnic staff members receive higher salary than their counterparts in State Polytechnics.					
15.	Federal Polytechnics staff members are adequately compensated for any loss encountered in the course of performing their official duties than the State Polytechnics staff.					
16.	Improved conditions of services are made available to Federal Polytechnics staff than the State Polytechnics staff.					
17.	Outstanding Federal Polytechnics staff members in terms of job performances are duly rewarded than those in the State Polytechnics.					
18.	Several allowances of the State Polytechnics staff are withheld by the State government than their counterparts in Federal Polytechnics.					
19.	Federal Polytechnics staff members receive bonuses on regular basis than the State Polytechnics staff.					
Comparison of the Process of Staff Appraisal in the Federal and State Polytechnics						
20.	Federal Polytechnics identify the weaknesses and strengths of their staff through staff period staff evaluation than the State Polytechnics.					
21.	Federal Polytechnics promptly communicate appraisal results to their staff than the State Polytechnics.					
22.	Federal Polytechnics assess the progress of their staff					

	through appraisal than the State Polytechnics.					
23.	Measurement of staff performance is conducted on regular basis by Federal Polytechnics than the State Polytechnics.					
24.	Staff evaluation is an effective tool used by Federal Polytechnics to recommend staff for training than the State Polytechnics.					
25.	State Polytechnics carry out periodic review of their staff assessment policies than the Federal Polytechnics.					

Suggestions for improvements:

Name_____Signature_____Date_____

Appendix D

Comparative Analysis of The Management of Human Resource Management Practices in Public Polytechnics in North-Central Geo-Political Zone, Nigeria using Cronbach Alpha statistical tool of Estimating Reliability.

RELIABILITY

/VARIABLES=VAR00001 VAR00002

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE HOTELLING CORR COV

/SUMMARY=TOTAL MEANS VARIANCE COV CORR.

Reliability

Notes	
Output Created	10th-November-2017 02:05:12
Comments	
Input	Active Dataset DataSet0
	Filter <none>
	Weight <none>
	Split File <none>
	N of Rows in Working Data File 24
	Matrix Input
Missing Value Handling	Definition of Missing User-defined missing values are treated as missing.
	Cases Used Statistics are based on allcases with valid data for allvariables in theprocedure.
Syntax	RELIABILITY /VARIABLES=VAR00001 VAR00002 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL MEANS VARIANCE COV CORR.
Resources	Processor Time 00:00:00.25
	Elapsed Time 00:00:00.030

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded	0	.0
	Total	24	100.0

a. List wise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.71	.71	24

Appendix E

Endorsed Validation Scale

Dear Sir,

Please rate the questionnaire in terms relevance for the above reason using the five-point scale show below:

Items	Very Relevant (5)	Quite Relevant (4)	Fairly Relevant (3)	Just Manageable (2)	Irrelevant (1)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Suggestions for improvement:

Name: _____ Signature: _____ Date: _____

$$5 \times 5 = 25$$

$$11 \times 4 = 44$$

$$7 \times 3 = 21$$

$$\frac{2 \times 2 = 4}{25} \quad \frac{94}{25 \times 5} = \frac{94}{125} = \frac{94}{125} = 0.752$$

Logical valuating index = 0.75 (75%)

Items	Very Relevant (5)	Quite Relevant (4)	Fairly Relevant (3)	Just Manageable (2)	Irrelevant (1)
1					
2					
3					
4					
5					
6					
7					
8					

Suggestions for improvement:

Name: _____ Signature: _____ Date: _____

$$2 \times 5 = 10$$

$$4 \times 4 = 16$$

$$2 \times 3 = 6$$

$$\frac{8}{8} \quad \frac{32}{32}$$

$$\frac{32}{8 \times 5}$$

$$= \frac{32}{40}$$

$$= 0.80$$

$$0.752$$

Logical valuating index = 0.80 (80%)

Appendix F

RAW DATA COMPUTATIONS

$X_{i=5, 4, 3, 2, 1}$

$\epsilon_x = 5+4+3+2+1$

$$\bar{x} = \frac{\epsilon x}{n} = \frac{15}{5} = 3.0$$

Decision Criteria

if $\bar{x} \geq 3.0$, *Accept*

if $\bar{x} < 3.0$, *Reject*

Item 1

X	F	Fx	X ²	Fx ²
5	319	1595	25	7975
4	257	1028	16	4112
3	61	183	9	549
2	59	118	4	236
1	49	49	1	49
	745	2973		12921

$$\bar{x} = \frac{\epsilon f x}{\epsilon f} = \frac{2973}{745} = 3.99$$

$$\delta = \sqrt{\frac{\epsilon f x^2}{\epsilon f} - \left(\frac{\epsilon f x}{\epsilon f}\right)^2} = \sqrt{\frac{12921}{745} - \left(\frac{2973}{745}\right)^2}$$

$$\delta = \sqrt{17.344 - 15.925} = \sqrt{1.419}$$

$$= 1.19$$

Item 2

X	F	Fx	X ²	Fx ²
5	300	1500	25	7500
4	265	1060	16	4240
3	75	225	9	675
2	65	130	4	260
1	40	40	1	40
	745	2955		12715

$$\bar{x} = \frac{\epsilon f x}{\epsilon f} = \frac{2955}{745} = 3.97$$

$$\delta = \sqrt{\frac{\epsilon f x^2}{\epsilon f} - \left(\frac{\epsilon f x}{\epsilon f}\right)^2} = \sqrt{\frac{12715}{745} - \left(\frac{2955}{745}\right)^2}$$

$$\delta = \sqrt{17.067 - 15.733} = \sqrt{1.334}$$

$$= 1.15$$

Item 3

X	F	Fx	X²	Fx²
5	298	1490	25	7450
4	272	1088	16	4352
3	95	285	9	855
2	50	100	4	200
1	30	30	1	30
	745	2993		12887

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2993}{745} = 4.02$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{12887}{745} - \left(\frac{2993}{745}\right)^2}$$

$$\delta = \sqrt{17.298 - 16.140} = \sqrt{1.158}$$

$$= 1.08$$

Item 4

X	F	Fx	X²	Fx²
5	405	2025	25	10125
4	180	720	16	2880
3	55	165	9	495
2	100	200	4	400
1	5	5	1	5
	745	3115		13905

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3115}{745} = 4.18$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13905}{745} - \left(\frac{3115}{745}\right)^2}$$

$$\delta = \sqrt{18.664 - 17.483} = \sqrt{1.181}$$

$$= 1.09$$

Item 5

X	F	Fx	X²	Fx²
5	278	1390	25	6950
4	255	1020	16	4080
3	120	260	9	1080
2	90	180	4	360
1	2	2	1	2
	745	2952		12472

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2952}{745} = 3.96$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{12472}{745} - \left(\frac{2952}{745}\right)^2}$$

$$\delta = \sqrt{16.741 - 15.701} = \sqrt{1.04}$$

$$= 1.02$$

Item 6

X	F	Fx	X ²	Fx ²
5	355	1775	25	8875
4	215	860	16	3440
3	65	195	9	585
2	100	200	4	400
1	10	10	1	10
	745	3040		13310

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3040}{745} = 4.08$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13310}{745} - \left(\frac{3040}{745}\right)^2}$$

$$\delta = \sqrt{17.866 - 16.651} = \sqrt{1.215}$$

$$= 1.10$$

Cluster Mean

$$\bar{x} = 4.03$$

$$\delta = 1.11$$

T-Test

H₀: Recruitment process in Federal Polytechnics is the same in State Polytechnics.

H_i: Recruitment process in Federal Polytechnics is not the same in State Polytechnics.

$$\alpha = 5\% = 0.05$$

$$\text{Test Statistic: } T = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

Decision Rule

Reject H₀ if $|t_{\text{cal}}| > t_{\text{tab}}$. Otherwise accept

Computation

$$x_i = 3.99, 3.97, 4.02, 4.18, 3.96, 4.08$$

$$\bar{x} = 4.03$$

$$\mu = 3.0$$

$$S = 0.084$$

$$T = \frac{4.03 - 3.0}{0.084/\sqrt{6}} = \frac{1.03}{0.03449} = 2.986$$

$$T = \frac{1.03}{0.034} = 30.29$$

$$t_{\text{cal}} = 30.29$$

$$t_{\text{tab}} = t_{\alpha/2, n-2} = \frac{t_{0.05}}{2}, 6 - 2$$

$$t_{0.025, 4} = 2.776$$

Conclusion

Since $30.29 > 2.776$, we reject H_0 . This implies that there is a significant difference in the recruitment process of human resources in Federal and State Polytechnics.

Item 7

X	F	Fx	X ²	Fx ²
5	298	1490	25	7450
4	275	1100	16	4400
3	70	210	9	630
2	77	154	4	308
1	25	25	1	25
	745	2979		12813

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2979}{745} = 3.99$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{12813}{745} - \left(\frac{2979}{745}\right)^2}$$

$$\delta = \sqrt{17.199 - 15.989} = \sqrt{1.21}$$

$$= 1.1$$

Item 8

X	F	Fx	X ²	Fx ²
5	70	350	25	1750
4	200	800	16	3200
3	190	570	9	1710
2	285	570	4	1140
1	0	0	1	0
	745	2290		7800

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2290}{745} = 3.07$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{7800}{745} - \left(\frac{2290}{745}\right)^2}$$

$$\delta = \sqrt{10.470 - 9.448} = \sqrt{1.022}$$

$$= 1.01$$

Item 9

X	F	Fx	X²	Fx²
5	117	585	25	2925
4	100	400	16	1600
3	165	495	9	1485
2	350	700	4	1400
1	130	130	1	130
	745	2310		7540

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2310}{745} = 4.08$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{7540}{745} - \left(\frac{2310}{745}\right)^2}$$

$$\delta = \sqrt{10.121 - 9.614} = \sqrt{0.507}$$

$$= 0.71$$

Item 10

X	F	Fx	X²	Fx²
5	305	915	25	7625
4	280	1120	16	4480
3	65	195	9	585
2	90	180	4	360
1	5	5	1	5
	745	2415		13055

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2415}{745} = 3.24$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13055}{745} - \left(\frac{2415}{745}\right)^2}$$

$$\delta = \sqrt{17.523 - 10.508} = \sqrt{7.015}$$

$$= 2.65$$

Item 11

X	F	Fx	X²	Fx²
5	378	1890	25	9450
4	115	620	16	2480
3	100	300	9	900
2	111	222	4	444
1	1	1	1	1
	745	3033		13275

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3033}{745} = 4.07$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13275}{745} - \left(\frac{3033}{745}\right)^2}$$

$$\delta = \sqrt{17.819 - 16.674} = \sqrt{1.245}$$

$$= 1.12$$

Item 12

X	F	Fx	X ²	Fx ²
5	305	1525	25	7625
4	265	1060	16	4240
3	110	330	9	990
2	55	110	4	220
1	10	10	1	10
	745	3035		13085

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3035}{745} = 4.07$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13085}{745} - \left(\frac{3035}{745}\right)^2}$$

$$\delta = \sqrt{17.564 - 16.596} = \sqrt{0.986}$$

$$= 0.99$$

Cluster Mean

$$\bar{x} = 3.59$$

$$\delta = 1.26$$

T-Test

H₀: Significant variation does not exist in staff training practice in the Federal and State Polytechnics in North Central, Geo-Political Zone, Nigeria

H_i: Significant variation does exist in staff training practice in the Federal and State Polytechnics in North Central Geo-Political Zone, Nigeria.

Level of Significant $\alpha = 0.05$

$$\text{Test Statistic: } T = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$$

$$x_i = 3.99, 3.07, 3.10, 3.24, 4.07, 4.07$$

$$\bar{x} = 3.59$$

$$\mu = 3.0$$

$$S = 0.501$$

$$n = 6$$

$$T = \frac{93.5 - 3.0}{0.501\sqrt{6}} = \frac{0.59}{\frac{0.501}{2.449}}$$

$$T = \frac{0.59}{0.205} = 2.88$$

$$t_{\text{cal}} = 2.88$$

$$t_{\text{tab}} = 2.776$$

Conclusion

Since $2.88 > 2.778$, we reject H_0 . This implies that there is a significant variation in staff training practice in the Federal and State Polytechnics in North Central Geo-Political Zone, Nigeria.

Item 13

X	F	Fx	X ²	Fx ²
5	255	1275	25	6375
4	288	1152	16	4608
3	85	255	9	765
2	107	214	4	428
1	10	10	1	10
	745	2906		12186

$$\bar{x} = \frac{\sum fx}{\sum f} = \frac{2906}{745} = 3.90$$

$$\delta = \sqrt{\frac{\sum fx^2}{\sum f} - \left(\frac{\sum fx}{\sum f}\right)^2} = \sqrt{\frac{12186}{745} - \left(\frac{2906}{745}\right)^2}$$

$$\delta = \sqrt{16.357 - 15.215} = \sqrt{1.142}$$

$$= 1.07$$

Item 14

X	F	Fx	X ²	Fx ²
5	100	500	25	2500
4	205	820	16	3280
3	100	300	9	900
2	310	620	4	1240
1	30	30	1	30
	745	2270		7950

$$\bar{x} = \frac{\sum fx}{\sum f} = \frac{2270}{745} = 3.05$$

$$\delta = \sqrt{\frac{\sum fx^2}{\sum f} - \left(\frac{\sum fx}{\sum f}\right)^2} = \sqrt{\frac{7950}{745} - \left(\frac{2270}{745}\right)^2}$$

$$\delta = \sqrt{10.671 - 9.284} = \sqrt{1.387}$$

$$= 1.18$$

Item 15

X	F	Fx	X²	Fx²
5	317	1585	25	7925
4	100	400	16	1600
3	65	195	9	585
2	248	496	4	992
1	15	15	1	15
	745	2691		11117

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2691}{745} = 3.61$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{11117}{745} - \left(\frac{2691}{745}\right)^2}$$

$$\delta = \sqrt{14.922 - 13.047} = \sqrt{1.875}$$

$$= 1.37$$

Item 16

X	F	Fx	X²	Fx²
5	285	1425	25	7125
4	240	960	16	3840
3	170	510	9	1530
2	45	90	4	180
1	5	5	1	5
	745	2990		12680

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2990}{745} = 4.01$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{12680}{745} - \left(\frac{2990}{745}\right)^2}$$

$$\delta = \sqrt{17.020 - 16.108} = \sqrt{0.912}$$

$$= 0.95$$

Item 17

X	F	Fx	X²	Fx²
5	342	1710	25	8550
4	208	832	16	3328
3	145	435	9	1305
2	45	90	4	180
1	3	3	1	3
	745	3070		13366

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3070}{745} = 4.12$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13366}{745} - \left(\frac{3070}{745}\right)^2}$$

$$\delta = \sqrt{17.491 - 16.981} = \sqrt{0.51}$$

$$= 0.71$$

Item 18

X	F	Fx	X²	Fx²
5	355	1775	25	8875
4	225	900	16	3600
3	109	327	9	981
2	55	110	4	220
1	1	1	1	1
	745	3133		13677

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3133}{745} = 4.18$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13677}{745} - \left(\frac{3133}{745}\right)^2}$$

$$\delta = \sqrt{18.358 - 17.460} = \sqrt{0.898}$$

$$= 0.95$$

Cluster Mean

$$\bar{x} = 3.82$$

$$\delta = 1.04$$

T-Test

H_0 : Staff compensation does not significantly differ in the Federal and State Polytechnics in North Central, Geo-Political Zone, Nigeria

H_1 : Staff compensation does significantly differ in the Federal and State Polytechnics in North Central Geo-Political Zone, Nigeria.

Level of Significant $\alpha = 0.05$

$$\text{Test Statistic: } T = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$$

Decision Rule

Reject H_0 if $|t_{\text{cal}}| > t_{\text{tab}}$. Otherwise accept.

$$x_i = 3.90, 3.05, 3.10, 3.61, 4.01, 4.12, 4.18$$

$$\bar{x} = 3.82$$

$$\mu = 3.0$$

$$S = 0.424$$

$$n = 6$$

$$T = \frac{3.82 - 3.0}{\frac{0.4241\sqrt{6}}{2.449}} = \frac{0.82}{0.173}$$

$$T = \frac{0.82}{0.173} = 4.740$$

$$t_{\text{cal}} = 4.740$$

$$t_{\text{tab}} = 2.776$$

Conclusion

Since $4.740 > 2.776$, we reject H_0 . this implies that staff compensation significantly differ in Federal and State polytechnics in North Central Geo-Political Zone, Nigeria.

Item 19

X	F	Fx	X ²	Fx ²
5	355	1775	25	8875
4	250	1000	16	4000
3	60	180	9	540
2	63	126	4	252
1	17	17	1	17
	745	3098		13684

$$\bar{x} = \frac{\sum fx}{\sum f} = \frac{3098}{745} = 4.16$$

$$\delta = \sqrt{\frac{\sum fx^2}{\sum f} - \left(\frac{\sum fx}{\sum f}\right)^2} = \sqrt{\frac{13684}{745} - \left(\frac{3098}{745}\right)^2}$$

$$\delta = \sqrt{18.368 - 17.292} = \sqrt{1.076}$$

$$= 1.04$$

Item 20

X	F	Fx	X²	Fx²
5	350	1750	25	8750
4	295	1180	16	4720
3	50	150	9	450
2	45	90	4	180
1	5	5	1	5
	745	3175		14105

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3175}{745} = 4.26$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{14105}{745} - \left(\frac{3175}{745}\right)^2}$$

$$\delta = \sqrt{18.933 - 18.162} = \sqrt{0.771}$$

$$= 0.88$$

Item 21

X	F	Fx	X²	Fx²
5	340	1700	25	8500
4	250	1000	16	3400
3	75	225	9	675
2	45	90	4	180
1	10	10	1	10
	745	3025		13365

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3025}{745} = 4.06$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13365}{745} - \left(\frac{3025}{745}\right)^2}$$

$$\delta = \sqrt{17.940 - 16.487} = \sqrt{1.453}$$

$$= 1.21$$

Item 22

X	F	Fx	X²	Fx²
5	285	1425	25	7125
4	240	960	16	3840
3	170	510	9	1530
2	45	90	4	180
1	5	5	1	5
	745	2990		12680

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{2990}{745} = 4.01$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{12680}{745} - \left(\frac{2990}{745}\right)^2}$$

$$\delta = \sqrt{17.020 - 16.108} = \sqrt{0.912}$$

$$= 0.95$$

Item 23

X	F	Fx	X ²	Fx ²
5	302	1510	25	7550
4	248	992	16	3968
3	140	420	9	1260
2	53	106	4	212
1	3	2	1	2
	745	3030		12992

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3030}{745} = 4.07$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{12992}{745} - \left(\frac{3030}{745}\right)^2}$$

$$\delta = \sqrt{17.439 - 16.541} = \sqrt{0.898}$$

$$= 0.95$$

Item 24

X	F	Fx	X ²	Fx ²
5	305	1525	25	7625
4	275	1100	16	4400
3	102	306	9	918
2	53	106	4	212
1	10	10	1	10
	745	3047		13165

$$\bar{x} = \frac{\varepsilon f x}{\varepsilon f} = \frac{3047}{745} = 4.09$$

$$\delta = \sqrt{\frac{\varepsilon f x^2}{\varepsilon f} - \left(\frac{\varepsilon f x}{\varepsilon f}\right)^2} = \sqrt{\frac{13165}{745} - \left(\frac{3047}{745}\right)^2}$$

$$\delta = \sqrt{17.671 - 16.728} = \sqrt{0.943}$$

$$= 0.97$$

Cluster Mean

$$\bar{x} = 4.11$$

$$\delta = 1.00$$

T-Test

H_0 : there is no significant difference in the process of staff appraisal in the Federal and State Polytechnic in North Central, Geo-Political Zone, Nigeria

H_i : there is a significant difference in the process of staff appraisal in the in the Federal and State Polytechnics in North Central Geo-Political Zone, Nigeria.

Level of Significant $\alpha = 5\% = 0.05$

$$\text{Test Statistic: } T = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$$

Decision Rule

Reject H_0 if $|t_{\text{cal}}| > t_{\text{tab}}$. Otherwise accept.

$$x_i = 4.16, 4.26, 4.06, 4.01, 4.07, 4.09,$$

$$\bar{x} = 4.11$$

$$\mu = 3.0$$

$$S = 0.089$$

$$n = 6$$

$$T = \frac{4.11 - 3.0}{\frac{0.089}{\sqrt{6}}} = \frac{1.11}{\frac{0.089}{2.449}}$$

$$T = \frac{1.11}{0.036} = 30.833$$

$$t_{\text{cal}} = 30.833$$

$$t_{\text{tab}} = 2.776$$

Conclusion

Since $30.833 > 2.776$, we reject H_0 . this implies that there is a significant difference in the process of staff appraisal in Federal and State polytechnics

in North Central Geo-Political Zone, Nigeria.