ASSESSMENT OF THE MANAGEMENT OF ABUJA ELECTRICITY DISTRIBUTION COMPANY IN MINNA NIGER STATE

BY

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2015/3/57359TI

DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION,

FEDERAL UNIVERSITY OF TECHNOLOGY MINNA, NIGER STATE

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION, SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION

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IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR AWARD OF BACHELOR OF TECHNOLOGY (B.TECH) IN INDUSTRIAL AND TECHNOLOGY EDUCATION.

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DECLARATION

I, **MANI, Veronica** with matriculation Number **2015/3/57359TI** an undergraduate student of the Department of Industrial and Technology Education certify that the work embodied in the project is original and has not been submitted in part or full for any other diploma or degree of this or any other University.

MANI, Veronica
2015/3/57359TI

_____
Sign and Date

CERTIFICATION

This project has been read and approved as meeting the requirement for the award of B.Tech degree in Industrial and Technology Education, School of technology Education, Federal University of Technology, Minna.

Mrs. Franca Nwankwo Okereke _____

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External Examiner Sign and Date

DEDICATION

I hereby dedicate this project to my lord and Savior Jesus Christ who has helped me making this work a reality.

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My ultimate and profound gratitude goes to Almighty God for his mercies, wisdom, provision, protection and guidance throughout my course of academic pursuit. I must sincere thank my project supervisor Dr. E. Raymond who devoted much of his time in reading, guiding and giving me some useful suggestions and constructive criticism that improve the quality of this work. May God reward you. I also acknowledge the Head of Department Prof. R.O. Okwori, for his advice and encouragement during the period of my study. My sincere thanks go to my Electrical/Electronics lecturers Dr. Hon. G. A. Usman, Dr. T. M. Saba, Mr I.K. Kalat and Dr. A.M. Hassan (Project Coordinator) for their unflinching support towards the success of my project, and all the lecturers in Industrial and Technology Education department for their contribution during the course of this research work.

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ABSTRACT

The research was designed to study the assessment of the management of Abuja electricity distribution company in Minna Niger state. Three research questions were answered and three hypotheses tested at 0.05 level of significance were formulated for the study. A survey research design was adopted for the study. The major purpose of this study is to determine the planning strategies adopted in the management of AEDC in Minna Niger State, the control measures used in the management of AEDC in Minna Niger state, the organizing process involved in the management of AEDC in minna Niger state, the directing procedure processes in the management of the AEDC in Minna Niger State.. The literature was reviewed in line with the two research questions, and the null hypotheses were formulated to guide the study, in which several sub-headings were discussed as regard to the purpose of the study. The research design use for this study is survey research design in which questionnaire was formulated to solicit information from the respondents. The target population of the study comprised of AEDC Staffs and Electricity Consumers. The total population for the study is 260 which consisted of 60 AEDC Staffs and 200 Electricity Consumers in Minna. Data obtained was analyzed using mean, standard deviation and t-test statistics. The finding also revealed that Employing a competent staff to be responsible for the effective management of tools and equipment, Guiding staff in the proper handling of tools and equipment's to prevent misuse of tools and equipments, Supplying the right quality and quantity of materials to the AEDC organization, Regular inspection of transmitting stations and cables in order to replace bad ones and enhance power, Ensuring that all safety provisions to be used for the activities that are put in place. The study concluded and recommended the following: Government should train and retrain staffs on the installation, operation and maintenance of new equipment by experts, Government should provide safety devices to improve safety arrangement in their activities, AEDC staff should Maintain a cordial relationship between staff and electricity consumers in the society to work together for the realization of AEDC objectives, There should be sharing of specific roles in the management of AEDC organization for their staffs.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The history of the Power sector in Nigeria is dates back to 1896 when electricity generation started in Nigeria (Klynveld Peat Marwick and Goerdeler, KPMG, 2013). According to (KPMG, 2013), 1929 was the year the first utility company (the Nigerian Electricity Supply Company) was established; although electricity generation started over 30 years before in 1896. Despite the efforts of the utility which was owned by the state, acted as a monopoly to manage the sector properly to solve the power problem, it became clear in the late 1990s that Nigeria needed a reform to solve Nigeria Power problem. The National Electric Power Policy of 2001 kicked of the reform which has been followed by several other reforms in the last decade. There have been significant strides in the reform of the sector since the introduction of democratic rule in the country. The privatisation process has been completed with the Federal government keeping ownership of the transmission (management) under concession while the generation and distribution sectors were fully privatised (KPMG, 2013). National Electric Power Authority (NEPA) was the entity that was previously tasked to generate, transmit and distribute electricity in Nigeria and it operated as a monopoly.

However, the combined challenges of poor financial performance and operations made the Federal Republic of Nigeria (FGN) to amend the Electricity and NEPA Acts in 1998 to encourage private sector participation while removing NEPA as a monopoly. The Nigeria Power sector privatization initiatives which transaction cost was about $3.0billion was among the boldest initiatives and decisions taken in the global power sector. (KPMG, 2013) This amendment was not far reaching until the FGN took holistic policy, legal and regulatory reforms by establishing the PHCN (Olerunkanmi, 2014). PHCN comprises of 3 generating stations, a transmission grid and 11 distribution companies. These companies are Abuja

Electricity Distribution Company (DisCo), Benin DisCo, Eko DisCo, Enugu DisCo, Ibadan DisCo, Ikeja DisCo, Jos DisCo, Kaduna DisCo, Kano DisCo, Port Harcourt DisCo and Yola DisCo (KPMG, 2013).

Abuja Electricity Distribution Company (AEDC) Plc is one of the 11 successor Electricity Distribution Companies that were successfully privatized and handed over to new investors on 31st October 2013 Abuja Electricity Distribution Company (AEDC) Plc franchise area and distribution network currently covers the Federal Capital Territory (FCT), Niger, Kogi and Nasarawa states across an area of 133,000 sq/km. AEDC Plc owns and maintains electrical installations and the distribution network within its franchise area. Which also responsible for the entire meter to cash process (M2C) including but not limited to metering, billing, revenue collection and customer services. In order to successfully carry out these functions, the people at the helms of the companies' affairs need the technicality of organizing the resource in order to obtain best results. This in itself is management

The term management brings to mind some terms like people, resources, goals, objectives, organizations and businesses. This is evident in some of the definitions like the one by Kotter and Cohen (2002) that define management as the function that coordinates people's efforts in using available resources effectively and efficiently to accomplish the organization's goals and objectives through others. Jonkar (2008) also captures a similar definition of management as a process that enables an organization to reach its goals by working through its employees and other organizational resources. (Thomas, 1996), points out that, the term management may be used as way of getting things done through people. These definitions are in line with an older definition of management by one of the management pioneers Harold Koontz (1909-1984) who defined management as the art of getting things done through other people within formally organized groups (Gautam, 2013). Three common aspects of these definitions can be seen; "organization", 'goals', 'objectives' and 'through people". In the context of this study,

an evaluation of will be made on the management of people, resources, goals and objectives of AEDC in Minna Niger state. Therefore for organization cannot be effective without the function of the management which includes; planning, organizing, directing and controlling.

Norman (2014) views planning as the management function that involves making a decision on where an organisation wants to go and taking the right steps to get there. Planning requires the management team of an organisation to ascertain themselves with both the external and internal environment in which their organisation is and know the opportunities and challenges the environment is likely to present. With this knowledge they can proceed to define what their objectives are and be ready to make necessary adjustments to their plans when the need arises (Wanish, 2009). Organising is the second of the management functions, which involves determining how resources will be distributed and employees will be arranged to fit the plan that has been made. When organising, delegation of authority and assigning work to various individuals by the manager are very important for achieving goals and objectives (Harcourt, 2013).

Directing is the third management function considered to be the most important and at the same time, most challenging (Whetten & Cameron, 1991). According to the findings of one of the researches by (Carpenter et al. 2014), for managers to be effective in leading, they must first of all understand the values, attitudes, personalities and emotions of their subordinates. Leading requires that employees are motivated, encouraged, guided and communicated with (Harcourt, 2013). Controlling is the final management function which involves ensuring that all the other management functions are in place and working effectively. It requires that, performance standards should be put in place and other measures be set to ensure that workers are attaining the required standard (Roberts, 2014). It is an important management activity because it ensures that an organisation is moving towards the achievement of its goals, it is performing in such a way that it will achieve the goals within the required time (Whetten &

Cameron, 1991). In order to determine how successful or otherwise an organization is, there must be a way of assessing the management.

Management assessment is a careful examination of those things in the process of work or in the workplace that could cause ineffectiveness of people. It also covers finding out whether enough measure have been taken or more should be done to prevent ineffectiveness and inefficiency. It is against this background that assessment and pursuit should be geared towards assessment of managements, determination of their significance, evaluation of the available corrective measures, and the selection of the optimal remedies. This action is to ensure effectiveness and efficiency of electricity functionalism of AEDC.

Kenneth and Keith (2002) viewed assessment as the process of examining as carefully, thoroughly and objectively as possible, an organization, individual or group of product or programme in order to ascertain strength and weakness. From the foregoing therefore, assessment can be seen as the systematic process of judging the worth, desirability, effectiveness, or adequacy of an organization according to a given criteria. With the problem militating against AEDC, consumer complaining about poor services and even staging demonstrations could it be that the authorities are not performing the management function properly.

1.2 Statement of the Problem

Huge efforts have been made by the government of Nigeria to resolve the electricity crises in Nigeria. For instance billion naira have been allocated to the sector.

These effort yet to yield the desired result there are complains of over billing from electricity consumers, poor and epileptic electronic electricity supply. In order to steam these tide, the government took a further step in privatizing electricity distribution in Nigeria, but the problems seems to be compounding instead of abating.

What could be the problem? Could it be that the current managers of distribution are lacking in some aspects? Olawole at el (2009) limited that which is a failure of management of AEDC therefore, the problem of this study is to access the management of AEDC minna with a view of assertanly whether they are performing their duties as expected.

1.3 Purpose of the Study

The General Purpose of this study is to assess the management of Abuja Electricity Distribution Company (AEDC) in Minna Niger State. Specifically the study seeks to examine;

1. The planning strategies adopted in the management of AEDC in Minna Niger State.
2. The control measures used in the management of AEDC in Minna Niger state
3. The organizing process involved in the management of AEDC in minna Niger state
4. The directing processes in the management of the AEDC in Minna Niger State.

1.4 Significance of the Study

The finding of this study will be of great benefit to the electricity company in Nigeria especially to AEDC of Niger state as it will enlighten them on the planning strategies that should be adopted, control measures used, organizing process involves and directing procedure processes in the management of electricity for effectiveness and efficiency of AEDC in Minna Niger State.

The outcome of this study will help the AEDC engineers and supervisors in handling their various responsibilities through effective personnel management, the finding will motivate participants in AEDC. It will enhance and improve the skills of professionals in the electrical sector in term of knowing the planning strategies in the industry and how it can be executed. This study will also help the management of job related hazards in term of hazard evaluation and hazard identification. The outcome of the study will also benefit workers in various operational unit and engine testing. This is because all possible danger would have been

identified; the finding will also pinpoint areas that need improvement. Workers in AEDC will have the opportunity to acquire knowledge, skill, and appreciation to know the various hazards and their prevention. It is considered that the result of this study would be of great importance to our government, policy makers and maintain safety in work place. If the finding is properly implemented by AEDC, it will help to minimize electrical accidents in electrical and AEDC workshop.

1.5 Scope of the Study

The scope of the study is limited to determining the management strategies which in the planning strategies adopted in the management of AEDC, control measures used in the management of AEDC, organizing process involved in the management of AEDC and directing procedure processes in the management of the AEDC in Minna Niger State.

1.6 Research Questions

The following research questions were formulated to guide this study;

1. What are the planning strategies adopted in the management of AEDC in Minna Niger State?
2. What are the control measures used in the management of AEDC in Minna Niger state?
3. What are the organizing processes involved in the management of AEDC in minna Niger state?
4. What are the directing processes in the management of the AEDC in Minna Niger State?

1.7 Hypotheses

The following null hypotheses were formulated and will be tested at 0.05 level of significance.

$H0_1$: There is no significant difference between the mean response of AEDC staff and electricity consumers on the planning strategies adopted in the management of AEDC in Minna Niger State**.**

$H0_2$: There is no significant difference between the mean response of AEDC staff and electricity consumers on the control measures used in the management of AEDC in Minna Niger state**.**

$H0_3$: There is no significant difference between the mean response of AEDC staff and electricity consumers on the organizing processes involved in the management of AEDC in minna Niger state**.**

$H0_4$: There is no significant difference between the mean response of AEDC staff and electricity consumers on the directing processes in the management of the AEDC in Minna Niger State.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Historical Background of AEDC

2.2 Electricity

2.3 Electricity Distribution

2.4 Abuja Electricity Distribution Plc

2.5 Network & Facilities

2.6 Management

2.7 Summary of the Literature Reviewed

2.1 Historical Background of AEDC

The history of electricity development in Nigeria can be traced back to the end of the 19th century when the first generating power plant was installed in the city of Lagos in 1898. From then until 1950, the pattern of electricity development was in the form of individual electricity power undertaken scattered all over the town. Some of the few undertaking were Federal Government bodies under the Public Works Department, some by the Native Authorities and others by the Municipal Authorities. In 1950, Electricity Corporation of Nigeria (ECN) was formed, in order to integrate electricity power development and make it effective, then the colonial Government passed the ECN ordinance No. 15 of 1950.With this ordinance in place, the electricity department and all those undertakings which were controlled came under one body.

The ECN and the Niger Dam Authority (NDA) were merged to become the National Electric Power Authority (NEPA) with effect from the 1st of April 1972. The actual merger did not

take place until the 6th of January 1973 when the first General Manager was appointed. Despite the problems faced by NEPA, the Authority has played an effective role in the nations socio-economic development thereby steering Nigeria into greater industrial society. The success story is a result of careful planning and hard work. The statutory function of the Authority is to develop and maintain an efficient co-ordinate and economical system of electricity supply throughout the Federation. The decree further states that the monopoly of all commercial electric supply shall be enjoyed by NEPA to the exclusion all other organizations. This however, does not prevent privy individuals who wish to buy and run thermal plants for domestic use from doing so. NEPA, from 1989, has since gained another status-that of quasi-commercialization. By this, NEPA has been granted partial autonomy and by implication, it is to feed itself. The total generating capacity of the six major power stations is 3,450 megawatts. In spite of considerable achievements of recent times with regards to the generating capability, additional power plants would need to be committed to cover expected future loads. At present, effort are made to complete the ongoing power plant projects. The period from 1972 to 2005 saw the three Regions changed from directorate of Jos, Kaduna, Kano, Lagos, Ibadan, Enugu and Bauchi into eleven distribution zones and about sixty business units to enhance efficient service delivery to the grassroots.

The Abuja distribution zone known now as AEDC, being the area of coverage for the study is one of the eleven distribution zones. The zone currently has nine business units namely, Wuse, Garki, Gwagwalada, and Kubwa business units, all located within the Federal Capital Territory; others are Suleja and Minna business units in Niger state, Lafia and Karu business units in Nassarawa state, and Lokoja business unit in Kogi state. Hence, the industry has nine power stations (six thermals and three hydro). The three hydro power stations are Kainji, Jebba and Shiroro, all are located in Niger state (the power state).

2.2 Electricity

The Concise Oxford Dictionary defines electricity as a form of energy resulting from the existence of charged particles (like electrons and protons), either statically as an accumulation of charge or dynamically as a current (Thompson, 1995). Similarly with reference to electrons,(Hydro Québec, 2004, 2011) defines electricity as an invisible phenomenon created by the movement of electrons in a conductor. It is important to note that getting one definition of electricity has been quite challenging. This is evident in the numerous definitions of electricity that exist and the interchangeable use of the word "electricity". This can be seen in the Concise Oxford dictionary for example, where the word "electricity" has four different definitions including being expressed as a human emotion "a state of heightened emotion, excitement, tension" (Thompson, 1995). To this effect, (Hydro Québec, 2004, 2011) notes that, the challenge in getting one acceptable definition of electrical energy is a reflection of the world which is filled with too many possibilities and unknowns. However, various authors who have made an attempt at defining electrical energy (which is the focus of this paper) stick to put across an understanding of its various properties; how it is generated, transmitted from one point to another and how it is used. A typical of this kind of definitions is made by (KPMG, 2013) which defines electricity as a type of energy fuelled by the transfer of electros from positive and negative points within a conductor. These authors go further to indicate that electricity is widely used for providing power to buildings, electrical devices and even automobiles. The concept of electricity can be traced far back to the 1740s, as a phenomenon which was on people's minds but not in the way we perceive and think about it today. It was used in the 1740s as a way of creating magic tricks by creating sparks and shocks and scientists at the time used electricity in conducting experiments. Even though it was used by scientists, scientific thinking about electricity up to 10 years after the 1740s had not changed much. Electricity was still not useful.

The concept of electricity as it is being used today was developed by Benjamin Franklin in 1759 following a discovery he made about the similarity between electricity and lightening as two phenomena that created light, made loud sounds when they exploded, were attracted to metal and had a particular smell (Hirram, 2013:5).

Today, the movement of electricity from its sources to a final consumer involves 3 main processes – generation, transmission and distribution (IEC, 2007). Thus it is important to note here that, making discussions on electricity distribution in isolation of generation and transmission will be presenting an incomplete discussion. This paper thus will make references to electricity generation and electricity transmission in Nigeria where ever necessary. Nigeria's Power Holding Company is made up of three types of subsidiaries these are: generation companies (GENCO), transmission and systems operations companies (TRANSYCO), and distribution Companies (DISCO) (Bloomberg, 2016). Electricity is generated at a power station by electromechanical generators which are primarily driven by heat engines and fuelled by chemical combustion or nuclear fission. It is also generated by other means such as kinetic energy of flowing water and wind. As noted earlier in chapter one, electricity can be generated through various means. In Nigeria for example, electricity in various power stations is generated using different means. The Kainji, Jebba and Shiroro power stations use water for the generation of Electricity, Egbin and Sapele use steam while Sapele, Afam and Delta power stations currently use gas (Ijewere, 2012).

According to the South African electricity company – Eskom, electricity is different from the other services that can be harvested from nature and provided to households such as water (Eskom, 2016). The difference lies in the fact that electricity must be manufactured. Most importantly, it must be manufactured at low cost to keep power bills low and ensure that the lowest-possible impact is felt on the environment (Eskom, 2016). The amount of electricity manufactured in each country is measured in megawatts and differs depending on the

country's demand for electricity. It is however important to note here that, there has been a global increase in the demand for electricity putting increased pressure on electricity manufacturers and distributors (World Bank,2013). In an attempt to meet increasing demand and to cope with the global scarcity of water due to climate variability, countries such as India and South Africa also use low quality coal in power stations next to coal deposits to generate electricity (Eskom, 2016). Even though using coal is an economical means of generating electricity, it not ideal because, no matter how carefully it is burnt, there are gaseous and solid emissions. The gases that are given off include sulphur dioxide, carbon dioxide and oxides of nitrogen, the first two of which are regarded as having climate-change effects on the environment (Eskom, 2016).

Electricity transmission is the more technical part in the process of getting electricity to the final consumer. It involves the transfer of electrical energy to electrical substations located near demand centres after generation (Dieter Betz et al, 2009). According to Brown et al. (2004), a strong electricity transmission system is important for 4 main reasons

1. It improves the reliability of the electric power system
2. It gives electricity customers flexibility to diversify the mix of fuels that produces their electricity by giving them access to power plants,
3. It improves the cost structure of the entire industry by giving low-cost power plants access to high-cost power markets, and
4. Enables competition among power plants by giving more plants access to more markets

Electricity that is generated at power stations is being transmitted through power lines that exist all over cities, towns and rural areas which are visible as one walks along the road (Eskom, 2015). As large electricity generators spin, they produce electricity with a low

voltage. (A volt is a measurement of the electric force that pushes electrons around a circuit) (Brown et al. 2004).

Once the electricity has been produced, it first goes to a transformer that boosts the voltage up. The need for a boost in the voltage is because scientists have noted that in traveling long distances, it is better for electricity to be transferred at higher voltage. In addition, electricity is said to be transmitted more efficiently at higher voltages (Brown et al. 2004). As can be observed.

The power lines go into substations near businesses, factories and homes. Here transformers change the very high voltage electricity back into lower voltage electricity.

From these substations (like in the diagram above), electricity in different power levels is used to run factories, street cars and mass transit, light street lights and stop lights, and is sent to neighbourhoods. In the neighbourhoods, another small transformer mounted on poles (see picture) or in a utility box converts the power to even lower levels to be used in your house (Brown et al. 2004). The voltage is eventually reduced for larger appliances, like stoves and clothes dryers, lights TVs and other smaller appliances. Rather than over-headlines, some new distribution lines are underground. The power lines are protected from the weather, which can cause the line to break (Brown et al. 2004).

2.3 Electricity Distribution

Electricity distribution is the final stage in the delivery of electric power and the main focus of this study. At this stage the electric power distribution carries electricity from the transmission system to individual consumers (Brown, 2008). Electricity distribution companies have been identified as a vital link between the supplier of electricity and customers that buy and use electricity. It involves a process which constructs and maintains equipment that transforms the power supply to the type that meets the customer's needs, meters the amount the customer

uses, provides the appropriate billing and collects the payments. In different countries, electricity distribution is managed by the central government, private organisations or the local government (Brown, 2008). In some countries in Africa, up to 500 electricity distributors may exist. In South Africa, for example, where electricity distribution is managed by Eskom and local governments, the number of electricity distributors recently reduced from 500 to 300 distributors (Eskom, 2016). The effective management of this large number of distributors has been difficult, reasons why in the past 2 decades the South African Electricity Distribution Company has been talking to its central government, local government and other involved stake holders like the National Energy Regulator about rationalising the Electricity Distribution Industry (EDI) (Eskom, 2016).

With a recognition that it will be more effective to manage a fewer number of distribution companies, Eskom is proposing the formation of six regional electricity distributors (REDs) whose sole responsibility would be to manage and drive all electricity distribution throughout the country (Eskom, 2016). This would allow tariffs to be aligned, service to be improved and the equipment to be better maintained and updated. Additionally, Interruptions of service (blackouts) because of old equipment would be much reduced (Eskom, 2016). Comparatively, Nigeria has a fewer number of distribution companies – 11. These will be discussed in detail in later sections of this chapter. As noted by (Eskom, 2016), it becomes difficult to manage and ensure effective distribution of electricity when there are many distribution companies. However, what can be noted here is that, even with a fewer number of distribution companies, Nigeria still seems to be facing challenges with electricity distribution. These challenges will be discussed more in later parts of this chapter. Thus this paper will seek to diagnose the managerial problems that are faced with the distribution of electricity in Africa and in Nigeria in particular.

In the distribution of electricity there exist a Distribution Management System (DMS) which is a collection of applications designed to monitor and control the entire distribution network efficiently and reliably (Huang et al. 2012:33, 43). A DMS is a very important aspect in the distribution of electricity. It acts as a decision support system that makes decisions that assist with the control room and field operations. It also performs other functions such as improving the reliability and quality of services in terms of reducing outages, minimising outage time, maintaining acceptable frequency and voltage levels (Huang et al. 2012:33, 43). Given its importance, it means that it is important for various countries to have effective DMS' to ensure effective distribution of electricity. In recent years, most DMS have been comprehensively using information technology solutions through their Outage Management System (OMS). An OMS is a combination of other systems that give feedback about customer satisfaction. These include a Customer Information Systems (CIS), Geographical Information System (GIS – which provides information about customer geographical location) and Interactive Voice Response System (IVRS) (Huang et al. 2012:33, 43). The most advanced and widely used DMS is the Schneider Electric's Advanced Distribution Management System (ADMS) which provides the most comprehensive network management solution, including monitoring, analysis, control, optimization, planning, and training tools that all function on a common representation of the entire electric distribution network (Huang et al. 2012:33,43). By merging distribution management (DMS), outage management (OMS), and supervisory control and data acquisition (SCADA) systems into one secure, unified solution with more than 50 advanced functions, it can maximize the benefits possible from a growing foundation of intelligent grid devices, distributed renewable energy, advanced metering, and all things smart grid.

2.4 Abuja Electricity Distribution Plc

Abuja Electricity Distribution Plc, or Abuja Disco, serves central Nigeria from its base in Abuja, Nigeria's capital city in the Federal Capital Territory (FCT). Abuja Disco was established in 1997 following the transfer of the capital from Lagos in 1991. Abuja Disco has a franchise for distribution and marketing in a service zone comprising Minna, Suleja, Lokoja and Lafia Districts. Abuja Disco owns and maintains electrical installations and the distribution network within the zone, manages meter installations, servicing and billing, coordinates consumer credit services, and collects revenue. Abuja Disco is one of 11 such distribution companies comprising the national distribution grid. The Transmission grid in turn, is managed by a separate company, the Transmission Company of Nigeria (TCN) Plc, from a national control center at Oshogbo, and a supplementary center at Shiroro. Abuja Disco distributes an average of 204,150MW of electricity annually. As at December 31, 2005. Abuja Disco ranked fourth among the 11 discos for both sales and electricity purchased/distributed. In 2002, Abuja Disco's combined customer base, consisting primarily of residential and commercial users, ranked ninth among Nigeria's discos, according to a due diligence study conducted by independent consultants. Abuja Disco currently employs 2,183 staff. The Shiroro Hydro Station, located approximately 245km from Abuja, is a major, seasonal supplier of Abuja Disco's electricity over 330Kv lines. Despite past investment, the demand for electricity in the Abuja Disco service zone exceeds the supply. Increasing population and commercial activities continue to add to that demand.

In 2005, Abuja Disco intensified collection efforts with the installation of pre-payment meters, route sequencing, bulk and feeder-by-feeder energy audits.

2.5 Network & Facilities

Abuja Disco infrastructure is among the most modern and best maintained in Nigeria. In FCT alone, Abuja Disco has installed, USD215million worth (depreciated replacement value) of

distribution network equipment, including underground cables, reflecting the aesthetics of a modern, newly-constructed capital city. Abuja Disco plans to follow this installation pattern in other districts. In Minna, Lokoja and Lafia districts, Abuja Disco has invested over USD25million (depreciated replacement value). In 2005, Abuja Disco delivered a total of 2,137,817,440GWh of electricity to 277,293 customers generating revenue amounting to N7.962 billion. Abuja Disco owns, maintains and operates a network equipped as follows:

Privatization

In 1999, the FGN began an aggressive restructuring of the power sector with several aims, including introduction of efficient, private sector standards and management principles, and methodology, leading to reliable power priced by the market. In 2001, the FGN approved a National Electric Power Policy (NEPP), followed in 2005 by the Electric Power Sector Reform (EPSR) Act. EPSR Act provides the legal authority for the unbundling of Nigeria's power utility as well as the introduction of a new, state-of-the-art regulatory scheme managed by the Nigerian Electricity Regulatory Commission (NERC), an independent regulatory commission, to guarantee open access and ensure efficiency throughout the industry. EPSRA also provides for a consumer assistance fund, development of a competitive market, and establishment of a Rural Electrification Agency and Fund (REA & REF) and the Nigeria Electricity Liability Management Company (NELMCO). Abuja Distribution Company Plc was established as a public limited liability company on November 8th, 2005, with electricity distribution and marketing franchise in the Federal Capital Territory (FCT). Abuja Disco is managed by a Chief Executive Officer (CEO) and a Management Team who report directly to the CEO, Power Holding Company of Nigeria (PHCN) Plc, Abuja Disco's parent company. In July 1, 2006, Abuja Disco became a stand-alone company as a next step toward privatization. Lease or core investor sale are the most likely privatization options but the exact

strategy will depend on an evaluation of operations, assets, investment required, and other factors.

2.6 Management

This section attempts to make linkages between some management definitions, views and important aspects of management. The discussion of management will form the basis and define the angle from which evaluations of Nigeria's electricity distribution from a management perspective will be made (Patel & Kopf, 2010: 27). Like many other concepts, giving a single definition of management will not be right because, various management authors defined the term differently during the evolutionary process of management. They defined the term based on the experience at the time (Patel & Kopf, 2010:27).

Management Viewed in terms of achieving organization's goals and objectives through people

The term management brings to mind some terms like people, resources, goals, objectives, organizations and businesses. This is evident in some of the definitions like the one by (Kotter & Cohen, 2002) that define management as the function that coordinates people's efforts in using available resources effectively and efficiently to accomplish the organization's goals and objectives through others. (Jonkar, 2008) also captures a similar definition of management as a process that enables an organization to reach its goals by working through its employees and other organizational resources. (Thomas, 1996), points out that, the term may be used about people. These definitions are in line with an older definition of management by one of the management pioneers Harold Koontz (1909-1984) who defined management as the art of getting things done through other people within formally organized groups (Gautam, 2013). Three common aspects of these definitions can be seen; "organization", 'goals', 'objectives' and 'through people". In the context of this paper, an

evaluation of is made of the management of people, resources, goals and objectives of Nigeria's Electricity distribution Industry.

In today's world we can identify 3 types of organizations, with different management structures and goal orientations, but whose goals and objectives are achieved through people – its employees and other stakeholders (Mulugeta, 2014). These are private organizations which are managed and operated by private individuals and they have profit making oriented goals and objectives. (Keller, 2012); Public Organisations on the other hand are organisations in today's world that are operated and managed by the government. Unlike a private sector organisation, its objectives are not profit making but the provision of public services which are often free at the point of delivery (Roehrich, J.K.& Wright, 2010); while Non-Profit Making Organisations (NPO) includes Community Based Organisations, according to (Mulugeta, 2014), are organizations whose primary objective does not include making profits or revenue (Grobman, 2008), clarifies this popular view when she points out that, the fact that such organizations are designated as nonprofit does not mean they do not intend to make profits, but rather, it simply means such organizations have no owners and that the funds realized in the operation of the organization will not be used to benefit any owners. The company in Nigeria, responsible for its electricity is known as the Power Holding Electricity Company (PCHN). Based on the definitions of types of organisations just made, PCHN is regarded as a Public Limited Company (Plc) as its stock can be acquired by anyone and holders of stock are only limited to potentially lose the amount that they pay on shares (KPMG, 2013).

2.6.2 Management Viewed in terms of the Management Function

Henri Fayol, described as the father of modern management and also regarded as the first person to come up with the four management functions, defined management as forecasting

and planning, organizing, commanding, coordinating and controlling (Hissom, 2009: 8). A similar definition was made by (Aquinas, 2011: 2) when he defined management as a distinct process consisting of planning, organising, actuating and controlling (Gautam, 2013). Management is a set of functions that are directed towards the effective and efficient use of resources for the achievement of organizational goals (Whetton & Cameron, 1991) . The management functions they refer to in their definition are the planning, organizing, leading and controlling functions.

Given that these functions are 4 important aspects of management, it is important for this paper to discuss what these functions in detail.

Planning: (Norman, 2014) views planning as the management function that involves making a decision on where an organisation wants to go and taking the right steps to get there. Planning requires the management team of an organisation to ascertain themselves with both the external and internal environment in which their organisation is and know the opportunities and challenges the environment is likely to present. With this knowledge they can proceed to define what their objectives are and be ready to make necessary adjustments to their plans when the need arises (Wanish, 2009: 2). Carrying out proper planning in an organization helps to reduce or eliminate the chances of waste of resources and ensure proper resource allocation. (Whetten & Cameron, 1991) also point out that decision making is a crucial part of planning. It involves choosing the best action to take, from a set of alternatives. Thus in order for the management of PHCN to be effective in its operations, it needs to set out a good plan.

The aspects of analyzing the environment in which the organisation exists, defining objectives and making decisions on best courses of action discussed above as noted above, brings up at this point of this discussion the aspect of strategic management which involves strategy and strategic planning

Strategic planning requires the management team to carry out an analysis of its environment. One tool which is commonly used for accessing their environment is the SWOT analysis which helps management find what their strengths and weaknesses are, identify areas where they have opportunities and prevent any threats arising from both the external and internal environments (Buzzle, 2013).

Organising: Organising is the second of the management functions, which involves determining how resources will be distributed and employees will be arranged to fit the plan that has been made. When organising, delegation of authority and assigning work to various individuals by the manager are very important for achieving goals and objectives (Harcourt, 2013). According to (Whetten & Cameron, 1991), contrary to what some people think, organising is much more than the creation of an organisation chart. It involves designing each employee's job and deciding how they should carry them. "Job Design" is a popular organisation term, which refers to decisions made about the nature of jobs within the organization. Organising jobs can be done at the level of the organisation and at the level of a particular job. At the level of the organisation, organising involves how best to put jobs into various departments (departmentalization)

(Whetten & Cameron, 1991). At the level of a particular job, organisation involves how best to design individual jobs so that human resources can be used in the most effective way. Traditionally, job design was based on principles of division of labor and specialization, which made and assumption that, individuals will perform a job more proficiently if the job content was narrow. (Carpenter et al. 2014) however, point out that, it is possible for jobs to become too narrow and specialized.

Leading: Leading is the third management function considered to be the most important and at the same time, most challenging (Whetten & Cameron, 1991). According to the findings of one of the researches by (Carpenter et al. 2014), for managers to be effective in leading, they

must first of all understand the values, attitudes, personalities and emotions of their subordinates. Leading requires that employees are motivated, encouraged, guided and communicated with (Harcourt, 2013). Managers can distinguish themselves as good leaders by constantly reading studies carried out by different people on aspects like motivation which outline how workers can be stimulated to direct their efforts towards production; communication which provide indications on how managers can productively communicate with their employees and finally studies on leadership which will tell managers the various leadership styles to use in different situations.

Controlling: Controlling is the final management function which involves ensuring that all the other management functions are in place and working effectively. It requires that, performance standards should be put in place and other measures be set to ensure that workers are attaining the required standard (Roberts, 2014). It is an important management activity because it ensures that an organisation is moving towards the achievement of its goals, it is performing in such a way that it will achieve the goals within the required time (Whetten & Cameron, 1991). In addition to setting performance standards, depending on the type of organisation, other measures that can be used to measure performance include sales and production reports, level of customer satisfaction and financial statements.

Controlling requires also that, there is a clear-cut understanding of where the deviations from standards lie (Harcourt, 2013). Traditionally, there are two control techniques: performance and budget audits. A budget audit will provide information about where the organization is with respect to what was planned or budgeted for, while a performance audit will make an effort to determine whether the figures that are reported reflect the organisation's actual performance. In companies where this may apply like manufacturing and service companies, there is a tendency to only view the controlling function in financial terms. Managers, however need to be careful against this as there is need to control other aspects like the

production and operations processes, delivery of services procedures and many other activities within the organization (Harcourt, 2013).

Thus, the above discussed four management functions are considered widely management functions of planning, organizing, leading, and controlling are widely to be considered to be the best describers of the job of a manager as well as the best way to classify accumulated knowledge about the study of management. This discussion of management will form the basis and define the angle from which evaluations of Nigeria's electricity distribution from a management perspective will be made.

Motivating: is an element of the management process that involves the deliberate encouragement and inspiration of employees to work more towards achieving organizational goals. It is about stimulating people to use their own initiative and be more interested in organizational activities. A manager's ability to motivate is a reflection that he is a good leader as motivation has no strict formula to follow (Quittner, 2014).

Coordinating: is also regarded as a function of leadership. It involves controlling all the organizing, planning and staffing activities of the organisation, ensuring that all the organizational activities work together for the good of the organization (Roberts, 2014). Coordination usually takes place in meetings and other planning sessions with the department heads so that all departments will be on the same page in terms of objectives and goals. Coordinating requires that management should communicate, supervise and direct (Roberts, 2014).

Staffing: (Gaurav, 2010) points out that, staffing involves choosing the right people to perform various tasks; giving them the right training and development and preparing the right salary package for them. It is regarded as a function that carters for all the recruitment and personnel needs of the organisation (human resources). Thus without the staffing function, an

organization is likely not to perform well as the aspect of doing things through people will be undermined (Robert, 2014)

Communicating: In an organisation, written and oral communications are essential for exchanging ideas, opinions, information and facts between employees within departments. Managers are required to use more of their time on communication in order to direct, motivate and co-ordinate activities of their subordinates. People think and act collectively through communication (Gaurav, 2010).

2.7 Summary of the Literature Reviewed

These functions will be applied in doing analysis of the effectiveness electricity distribution in AEDC in Niger state where they will be looked at factors ineffectiveness in the organization. In justification for the study, poor management cause an organization- poor electricity supply, arbitrary or estimate bill, poor service delivery, complaints from customers etc.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

The research deals with the description of procedures used in carrying out this study. It include the area of study, research design, population, sample, instrument for data collection, validation of the instrument, method of data analysis and the decision rule.

3.1 Research Design

The research design used in carrying out this study is the design method where questionnaire was used to determine opinions of the respondent (workers) on the issue under investigation. Nworgu, (2001), which specifies how data relating to a given problem should be collected and analyzed, the survey design was considered suitable since the study was to seek information from a sample that was drawn from a population using questionnaire.

3.2 Area of the Study

The study was carried out in AEDC office in Minna. This comprises of all the AEDC offices in Minna

3.3 Population of the Study

The target for this study comprise of 100 AEDC staffs and 300 electricity consumers of Abuja Electricity Distribution Company (AEDC) in Minna, Niger state.

3.4 Sample and Sampling Technique

As a result of high population and location of the AEDC offices in metropolis, the researcher have just decide to obtain a small size from the population using a survey design. A survey design is one which involved the assessment of people onion using the questionnaire. The study adopt survey design because it suit people opinion. Hence a total of 60 staffs out of the 100 and 200 electricity consumers in the AEDC offices Minna will be selected.

Distribution of the sample of the respondent

S/N	AEDC STAFFS	ELECTRICITY CONSUMERS
`1	60	200
TOTAL	60	200

3.5 Instrument for data Collection

A structural Questionnaire Titled

In analysing the data for this study, the researcher made use of mean, standard deviation and t-test, four rating item were developed using

SA……strongly agree = 4 points

A……..Agree =3 points

SD…….Strongly Disagree =2 Points

D…….Disagree =1 Point

3.6 Validation of the Instrument

The instrument used for the study was be validated by three lecturers in the department of Industrial and Technology Education, Federal University of Technology Minna, all the obstructions made by the validates were taken into account in the production of the final version.

3.7 Reliability of the Instrument

The instrument was pilot at maikunkele using 15 AEDC staff and 50 electricity consumer the reliability coefficient was calculated using cronbach alpha and it was found to be 0.75

3.8 Method of Data Collection

The questionnaire was personally administered to the respondent (AEDC workers). Worth the help of the 4 research filled copies of the researcher and the assistant. The computed copies was also collected by the researcher. Questionnaire were retrieved and kept in the custody of the researcher for analysis

3.9 Method of Data Analysis

In analyzing the data for this study, the researcher made use of mean, standard deviation and t-test. The means of each item was obtained using the formula below.

X=Σ/N (summation of nominal value divided by no. of items)

And standard deviation while t-test was used to test hypothesis where;

Σ□= summation of nominal value

X = Mean

N= Number of items

Therefore the mean value =

SD = Σ/(□□)/N

Where

Standard deviation

N = Total number of items

Σ= Summation

T= Test used to compare the means of each of trainee and instruction and to determine the relationship between their responses.

The formula for calculating t- value is

$$T = \frac{X1 - X2}{S \sqrt{\frac{N1}{N2}}}$$

T= test of Significance

X1= Grand mean of group 1

X2= Grand mean group 2

N1= Number of respondents in group 1

N2= Number of respondents in group 2

$S1^2$ = variance of group 1 (square of S.D for group 1)

$S2^2$ = Variance of group 1 (square of S.D for group 2)

N1 + N2 -2 = Degree of freedom (D.F) = 66+30-2=94

3.10 Decision rule

To determine the acceptance a mean score of 2.5 was chosen as the decision point between agree and disagree. Any response or item with mean of 2.50 was considered acceptable while responses of 2.49 and below were out rightly rejected. Also an inferential statistic t-test was use to test the hypothesis at 0.05 level of significant, therefore any hypo with t-calculated value less than the t-critical was regarded as accepted or not significant (NS). While any hypo with t-calculated value greater than or equal to was regarded as rejected or significant (S)

CHAPTER FOUR

4.0 RESULT AND DISCUSSION

This chapter involves the presentation and data analysis with regard to the research questions compiled and critically examined for this study, the result of this data analysis for the research questionnaire are presented as follows.

4.1 Research Question One

What are the planning strategies adopted in the management of AEDC in Minna Niger State?

Table 4.1: Mean responses of AEDC staff and Electricity consumers on the planning strategies adopted in the management of AEDC in Minna, Niger State.

N_1 =200 , N_2 = 60

S/N	ITEMS	$\overline{X}_1$	$\overline{X}_2$	X_T	REMARKS
1	Ensuring the availability of equipment to be used for AEDC	2.88	3.17	3.03	Agreed
2	Ensuring the availability of tools to be used for AEDC	1.81	2.17	1.99	Disagreed
3	Ensuring the availability of materials to be used for AEDC	1.73	2.33	2.03	Disagreed
4	Identification of practical objectives for AEDC	3.35	3.67	3.51	Agreed
5	Consideration of duration for the workshop, seminar	2.88	3.40	3.14	Agreed
6	Listing clearly the roles expected to be performed by the AEDC workers	2.08	1.60	1.84	Disagreed
7	Clearly stating the roles to be performed by the workers	2.50	3.00	2.75	Agreed
8	Drawing up step-by-step procedure to be used in carrying out each task	2.19	3.20	2.70	Agreed
9	Preparation of activites sequence to be adopted	2.73	2.17	2.45	Agreed
10	Listing in order, the activities to be done	3.00	3.83	3.42	Agreed
11	Examining the tools and materials necessary for the activities to be performed.	2.15	2.50	2.33	Disagreed
12	Arrangement of workshop facilities based on current workers' enrolment	2.54	3.17	2.86	Agreed
13	Arrangement of workshop facilities	3.12	4.00	3.56	Disagreed

	based on current workers' enrolment				
14	Arrange to set up the workshop layout with adequate gangways and work areas	2.81	2.67	2.74	Agreed
15	To locate the machines and equipment appropriately.	2.00	2.19	1.55	Disagreed
16	Provisions for workers to have easy access to materials, tools and equipment.	2.71	2.39	2.58	Agreed
	GRAND AVERAGE	**2.53**	**2.84**	**2.66**	

Key

N_1 = Electricity consumers
SD_1 = Standard deviation of Electricity consumers
N_2 = Number of AEDC Staff
SD_2 = Standard deviation of AEDC Staff
X_1 = Mean of Electricity consumers
X_2 = Mean of AEDC Staff
X_t = average mean of Electricity consumers and AEDC Staff

The result presented in table 4.1 shows that the mean value of some of the items Agreed with the planning strategies adopted in the management of AEDC in Minna Niger State, while the mean value of items 2,3,6,11,13,15 Disagreed with the planning strategies adopted in the management of AEDC in Minna Niger State. Items below the cut-off point of 2.50 are regarded as Disagreed.

4.2 Research Question Two

What are the control measures uses in the management of AEDC in Minna, Niger state?

Table 4.2: Mean responses of AEDC staff and Electricity consumers on the control measures uses in the management of AEDC in Minna, Niger state

N_1 = 200, N_2 = 60

S/N	ITEMS	$\overline{X}_1$	$\overline{X}_2$	X_T	REMARKS
1	Auxiliary rooms are enclosed by partitions to reduce interference.	2.35	2.83	2.59	Agreed
2	Equipping machines with fumes and dust removal system such as fume hoods or vacuum machines	2.57	2.67	2.55	Agreed

3	Reducing noise of AEDC transmitting station in the society	2.35	3.20	3.78	Agreed
4	Avoidance of electric shock for AEDC staff in the process of discharging their duties in the society	2.38	3.25	2.85	Agreed
5	Regular inspection of transmitting stations and cables in order to replace bad ones and enhance power	2.81	2.83	2.82	Agreed
6	good layout of cables and power line to facilitate and control effective movement of the people in the society	3.38	3.00	3.19	Agreed
7	Preparation of directives for the use of machines, tools and materials in the workshop	3.00	3.33	3.17	Agreed
8	Maintaining a complete inventory of equipments and tools at the end of each operations	2.62	2.67	2.63	Agreed
9	Employing a competent staff to be responsible for the effective mangement of tools and equipment	2.73	2.83	2.78	Agreed
10	Guiding staff in the proper handling of tools and equipments to prevent misuse of tools and equipments	3.30	3.19	3.25	Agreed
11	Supplying the right quality and quantity of materials to the AEDC organization	3.14	2.67	2.91	Agreed
12	Maintaining an accurate inventory of materials in stock	3.00	2.96	2.98	Agreed
13	The security arrangement of the workshop is improved by checking pilfering of tools by the staffs	3.60	2.89	3.25	Agreed
14	Careless loss of tools and equipments due to pilfering or vandalism must be constantly checked	3.14	2.89	3.02	Agreed
	GRAND AVERAGE	**2.89**	**2.94**	**2.98**	

Key

N_1 = Electricity consumers
SD_1 = Standard deviation of Electricity consumers
N_2 = Number of AEDC Staff
SD_2 = Standard deviation of AEDC Staff
X_1 = Mean of Electricity consumers
X_2 = Mean of AEDC Staff
X_t = average mean of Electricity consumers and AEDC Staff

The result presented in table 4.2 shows that the mean value of all the items agreed with the control measures used in the management of AEDC in Minna, Niger state. Items below the cut-off point of 2.50 are regarded as Disagreed.

4.3 Research Question Three

What are the organizing processes involves in the management of AEDC in minna, Niger state?

Table 4.3: Mean responses of AEDC staff and Electricity consumers on the organizing processes involves in the management of AEDC in minna Niger state.

$N_1 = 200$, $N_2 = 60$

S/N	ITEMS	$\overline{X}_1$	$\overline{X}_2$	X_T	REMARKS
1	Arrangement of tools and materials before and after use	2.53	2.50	2.51	Agreed
2	Laying out the equipment to ease their cleaning and maintenance	3.00	4.20	3.60	Agreed
3	Layout of equipment to promote safety	2.35	3.50	2.93	Agreed
4	Arranging equipment for efficient flow of materials from storage to finished products	2.62	2.83	2.73	Agreed
5	Proper arrangement of general cabinets in the workshop to enhance good services	2.54	2.33	2.44	Agreed
6	Identification and selection of equipment and materials based on projected activities for workers	3.54	3.50	3.52	Agreed
7	Selection of projects should be done to match workers aspiration	2.85	2.40	2.63	Agreed
8	Procedures have to be arranged in accordance with sequence of performance by the staff	2.37	2.67	2.47	Agreed
9	Materials should be arranged according to their uses	2.77	2.47	2.57	Agreed
10	Equipment and tools should be arranged in sequence like sizes, uses, colour, for ease of reference and accountability	3.63	3.38	3.50	Agreed
11	Proximity, to tools for use should be of high priority	3.63	3.50	3.56	Agreed
12	Tools should be organized and arranged so that adequate supervision is enhance	3.63	2.94	3.28	Agreed
13	Ensuring that all safety provisions to be used for the activities that are put in place	3.70	3.31	3.51	Agreed
14	Selection of practical projects within the ability of the workers	3.53	3.06	3.29	Agreed
	GRAND AVERAGE	**3.04**	**3.04**	**3.04**	

Key

N_1 = Electricity consumers
SD_1 = Standard deviation of Electricity consumers
N_2 = Number of AEDC Staff
SD_2 = Standard deviation of AEDC Staff
X_1 = Mean of Electricity consumers
X_2 = Mean of AEDC Staff
X_t = average mean of Electricity consumers and AEDC Staff

The result presented in table 4.3 shows that the mean value of all the items agreed with the organizing processes involves in the management of AEDC in minna, Niger state. Items below the cut-off point of 2.50 are regarded as Disagreed.

4.4 Research Question four

What are the directing procedure processes in the management of the AEDC in Minna Niger State?

Table 4.4: Mean responses of AEDC staff and Electricity consumers on the directing procedure processes in the management of the AEDC in Minna Niger State.

N_1 = 200, N_2 = 60

S/N	ITEMS	$\overline{X}_1$	$\overline{X}_2$	X_T	REMARKS
1	Grouping AEDC staff to execute specific project	2.51	2.51	2.51	Agreed
2	Available equipment and facilities should be arranged for different uses of operations	3.00	4.20	3.60	Agreed
3	Equipment's and tools should be allocated to staffs for different uses	2.35	1.50	1.93	Disagreed
4	Making sure that different tools and equipment are used harmoniously in the process of discharging operations	2.62	2.83	2.73	Agreed
5	Training of staffs on the installation, operation and maintenance of new equipment by experts	2.54	2.53	2.52	Agreed
6	Provision of safety devices to improve safety arrangement in their activities	3.54	3.50	3.52	Agreed
7	Maintaining a cordial relationship between staff and electricity consumers in the society to work	2.85	2.40	2.63	Agreed

	together for the realization of AEDC objectives				
8	There should be sharing of specific roles in the management of AEDC organization for their staffs	2.47	2.67	2.57	Agreed
	GRAND AVERAGE	**2.74**	**2.77**	**2.76**	

Key

N_1 = Electricity consumers
SD_1 = Standard deviation of Electricity consumers
N_2 = Number of AEDC Staff
SD_2 = Standard deviation of AEDC Staff
X_1 = Mean of Electricity consumers
X_2 = Mean of AEDC Staff
X_t = average mean of Electricity consumers and AEDC Staff

The result presented in table 4.4 shows that the mean value of all the items Agreed with the directing procedure processes in the management of the AEDC in Minna Niger State while only the mean value of items 3 Disagreed with the directing procedure processes in the management of the AEDC in Minna Niger State. Items below the cut-off point of 2.50 are regarded as Disagreed.

4.5 hypotheses One

$H0_1$: There is no significant difference between the mean response of AEDC staff and electricity consumers on the planning strategies adopted in the management of AEDC in Minna Niger State**.**

Table 4.4: T-test of the mean response of AEDC staff and electricity consumers on the planning strategies adopted in the management of AEDC in Minna Niger State.

S/N	RESPONDENTS	N	$\overline{X}$	SD	d.f	t-cal	t-critical
1	AEDC Staff	60	2.84	0.74	258	0.16	1.96
2	Electricity consumers	200	2.53	0.89			

In table 4.5, the t-calculated (0.16) does not exceed the t-critical of (1.96) necessary for acceptance of null hypotheses at 0.05 level for 258 degree of freedom, the hypotheses were accepted, hence there was no significant difference between the mean rating of AEDC staff

and electricity consumers on the planning strategies adopted in the management of AEDC in Minna Niger State**.**

4.5 hypotheses Two

$H0_2$: There is no significant difference between the mean response of AEDC staff and electricity consumers on the control measures used in the management of AEDC in Minna Niger state**.**

Table 4.6: T-test of the mean response of AEDC staff and electricity consumers on the control measures used in the management of AEDC in Minna Niger state.

S/N	RESPONDENTS	N	$\overline{X}$	SD	d.f	t-cal	t-critical
1	AEDC Staff	60	2.89	0.75	258	0.19	1.96
2	Electricity consumers	200	2.94	0.60			

In table 4.6, the t-calculated (0.19) does not exceed the t-critical value of (1.96) necessary for acceptance of null hypotheses at 0.05 level with 258-degree freedom hence there was no significant difference between the mean response of AEDC staff and electricity consumers on the control measures used in the management of AEDC in Minna Niger state**.**

4.7 Hypotheses Three

$H0_3$: There is no significant difference between the mean response of AEDC staff and electricity consumers on the organizing processes involves in the management of AEDC in Minna Niger state**.**

4.7: T-test of the mean response of AEDC staff and electricity consumers on the organizing processes involves in the management of AEDC in Minna Niger state.

S/N	RESPONDENTS	N	$\overline{X}$	SD	d.f	t-cal	t-critical
1	AEDC Staff	60	3.04	0.78	258	-2.55	1.96
2	Electricity consumers	200	3.04	0.69			

In the table above the t-calculated (-2.55) does not exceed the t-critical of (1.96) necessary for the acceptance of null hypotheses at 0.05 level with 258-degree freedom hence there was no significant difference between the mean response of AEDC staff and electricity consumers on the organizing processes involves in the management of AEDC in Minna Niger state**.** Therefore the hypotheses was accepted.

4.8 Hypotheses Four

$H0_4$: There is no significant difference between the mean response of AEDC staff and electricity consumers on the directing procedure processes in the management of the AEDC in Minna Niger State.

4.8: T-test of the mean response of AEDC staff and electricity consumers on the directing procedure processes in the management of the AEDC in Minna Niger State.

S/N	RESPONDENTS	N	$\overline{X}$	SD	d.f	t-cal	t-critical
1	AEDC Staff	60	2.77	0.74	258	1.08	1.96
2	Electricity consumers	200	2.74	0.85			

In the table above the t-calculated (1.08) does not exceed the t-critical of (1.96) necessary for the acceptance of null hypotheses at 0.05 level with 258-degree freedom hence there was no significant difference between the mean response of AEDC staff and electricity consumers on the directing procedure processes in the management of the AEDC in Minna Niger State.**.** Therefore the hypotheses was accepted.

4.9 Findings of the Study

Based on the data collected and analyzed, the following findings were made according to the research questions raised for the study.

Findings related to the planning strategies adopted in the management of AEDC in Minna Niger State: Ensuring the availability of equipment to be used for AEDC, Identification of practical objectives for AEDC Staff, Consideration of duration for the workshop, seminar and Clearly stating the roles to be performed by the workers.

Findings related to the control measures uses in the management of AEDC in Minna Niger state: Auxiliary rooms are enclosed by partitions to reduce interference, Equipping machines with fumes and dust removal system such as fume hoods or vacuum machines, Reducing

noise of AEDC transmitting station in the society, Avoidance of electric shock for AEDC staff in the process of discharging their duties in the society.

Findings related to the organizing processes involves in the management of AEDC in Minna Niger State: Arrangement of tools and materials before and after use, Laying out the equipment to ease their cleaning and maintenance, Layout of equipment to promote safety and Arranging equipment for efficient flow of materials from storage to finished products.

Findings related to the directing procedure processes in the management of the AEDC in Minna Niger State: Grouping AEDC staff to execute specific project, Available equipment and facilities should be arranged for different uses of operations, Making sure that different tools and equipment are used harmoniously in the process of discharging operations and Training of staffs on the installation, operation and maintenance of new equipment by experts.

4.10 Discussion of the Findings

Table 4.1 presents the finding on the planning strategies adopted in the management of AEDC in Minna Niger State. The findings revealed that ensuring the availability of equipment to be used for AEDC, Identification of practical objectives for AEDC Staff, Consideration of duration for the workshop, seminar, Clearly state the roles to be performed by the workers, drawing up step-by-step procedure to be used in carrying out each task, Preparation of activities sequence to be adopted, examining the tools and materials necessary for the activities to be performed and arrangement of workshop facilities based on current workers' enrolment.

Planning requires the management team of an organisation to ascertain themselves with both the external and internal environment in which their organisation is and know the opportunities and challenges the environment is likely to present. With this knowledge they

can proceed to define what their objectives are and be ready to make necessary adjustments to their plans when the need arises (Wanish, 2009: 2). Carrying out proper planning in an organization helps to reduce or eliminate the chances of waste of resources and ensure proper resource allocation. (Whetten & Cameron, 1991) also point out that decision making is a crucial part of planning. It involves choosing the best action to take, from a set of alternatives. Thus in order for the management of PHCN to be effective in its operations, it needs to set out a good plan.

Table 4.2 is the data of findings on the control measures uses in the management of AEDC in Minna Niger state. The findings gotten from this, shows the auxiliary rooms are enclosed by partitions to reduce interference, equipping machines with fumes and dust removal system such as fume hoods or vacuum machines, reducing noise of AEDC transmitting station in the society, avoidance of electric shock for AEDC staff in the process of discharging their duties in the society, regular inspection of transmitting stations and cables in order to replace bad ones and enhance power, good layout of cables and power line to facilitate and control effective movement of the people in the society, Preparation of directives for the use of machines, tools and materials in the workshop, maintaining a complete inventory of equipment's and tools at the end of each operations, employing a competent staff to be responsible for the effective management of tools and equipment, guiding staff in the proper handling of tools and equipment's to prevent misuse of tools and equipments, supplying the right quality and quantity of materials to the AEDC organization, maintaining an accurate inventory of materials in stock, the security arrangement of the workshop is improved by checking pilfering of tools by the staffs, careless loss of tools and equipments due to pilfering or vandalism must be constantly checked.

Controlling requires also that, there is a clear-cut understanding of where the deviations from standards lie (Harcourt, 2013). Traditionally, there are two control techniques: performance and budget audits. A budget audit will provide information about where the organization is with respect to what was planned or budgeted for, while a performance audit will make an effort to determine whether the figures that are reported reflect the organisation's actual performance. In companies where this may apply like manufacturing and service companies, there is a tendency to only view the controlling function in financial terms. Managers, however need to be careful against this as there is need to control other aspects like the production and operations processes, delivery of services procedures and many other activities within the organization (Harcourt, 2013).

Table 4.3 is the data of findings on the organizing processes involves in the management of AEDC in Minna Niger state. The findings revealed that there should be arrangement of tools and materials before and after use, laying out the equipment to ease their cleaning and maintenance, Layout of equipment to promote safety, arranging equipment for efficient flow of materials from storage to finished products, Proper arrangement of general cabinets in the workshop to enhance good services, Identification and selection of equipment and materials based on projected activities for workers, Selection of projects should be done to match workers aspiration, procedures have to be arranged in accordance with sequence of performance by the staff, materials should be arranged according to their uses, equipment and tools should be arranged in sequence like sizes, uses, colour, for ease of reference and accountability, Proximity, to tools for use should be of high priority, tools should be organized and arranged so that adequate supervision is enhance, ensuring that all safety provisions to be used for the activities that are put in place and selection of practical projects within the ability of the workers.

According to (Whetten & Cameron, 1991), contrary to what some people think, organising is much more than the creation of an organisation chart. It involves designing each employee's job and deciding how they should carry them. "Job Design" is a popular organisation term, which refers to decisions made about the nature of jobs within the organization. Organising jobs can be done at the level of the organisation and at the level of a particular job. At the level of the organisation, organising involves how best to put jobs into various departments (departmentalization)

(Whetten & Cameron, 1991). At the level of a particular job, organisation involves how best to design individual jobs so that human resources can be used in the most effective way. Traditionally, job design was based on principles of division of labor and specialization, which made and assumption that, individuals will perform a job more proficiently if the job content was narrow. (Carpenter et al. 2014) however, point out that, it is possible for jobs to become too narrow and specialized.

Table 4.4 is the data of findings on directing procedure processes in the management of the AEDC in Minna Niger State. The findings revealed that there should be grouping AEDC staff to execute specific project, available equipment and facilities should be arranged for different uses of operations, making sure that different tools and equipment are used harmoniously in the process of discharging operations, training of staffs on the installation, operation and maintenance of new equipment by experts, provision of safety devices to improve safety arrangement in their activities, maintaining a cordial relationship between staff and electricity consumers in the society to work together for the realization of AEDC objectives and there should be sharing of specific roles in the management of AEDC organization for their staffs.

Directing processes is also regarded as a function of leadership. It involves controlling all the organizing, planning and staffing activities of the organisation, ensuring that all the

organizational activities work together for the good of the organization (Roberts, 2014). Coordination usually takes place in meetings and other planning sessions with the department heads so that all departments will be on the same page in terms of objectives and goals. Coordinating requires that management should communicate, supervise and direct (Roberts, 2014).

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Study

The study is a survey research designed on Assessment of the management of Abuja Electricity Distribution company in Minna, Niger State. Specifically the study seeks to examine;

5. The planning strategies adopted in the management of AEDC in Minna Niger State.
6. The control measures used in the management of AEDC in Minna Niger state
7. The organizing process involve in the management of AEDC in minna Niger state
8. The directing processes in the management of the AEDC in Minna Niger State.

In order to achieve these objectives four research questions were formulated to achieve the study. The population used was Two hundred and sixty (260) respondents. The instrument used for gathering data was a questionnaire. The data collected were analyzed using mean standard deviation and t-test statistics at 0.05 level of significance.

In other words management is seen as the function that coordinates people's efforts in using available resources effectively and efficiently to accomplish the organization's goals and objectives through others. Management as a process that enables an organization to reach its goals by working through its employees and other organizational resources. The term management may be used as way of getting things done through people.

5.2 Conclusion

In conclusion, Norman (2014) views planning as the management function that involves

making a decision on where an organisation wants to go and taking the right steps to get there. Planning requires the management team of an organisation to ascertain themselves with both the external and internal environment in which their organisation is and know the opportunities and challenges the environment is likely to present. With this knowledge they can proceed to define what their objectives are and be ready to make necessary adjustments to their plans when the need arises (Wanish, 2009). Organising is the second of the management functions, which involves determining how resources will be distributed and employees will be arranged to fit the plan that has been made. When organising, delegation of authority and assigning work to various individuals by the manager are very important for achieving goals and objectives (Harcourt, 2013)**.** Directing is the third management function considered to be the most important and at the same time, most challenging (Whetten & Cameron, 1991).

5.3 Recommendations

This study made the following recommendations:

1. Government should train and retrain staffs on the installation, operation and maintenance of new equipment by experts.
2. Government should provide safety devices to improve safety arrangement in their activities.
3. AEDC staff should Maintain a cordial relationship between staff and electricity consumers in the society to work together for the realization of AEDC objectives.
4. There should be sharing of specific roles in the management of AEDC organization for their staffs.

5.4 Contribution to Knowledge

The study contribute to benefit to the electricity company in Nigeria especially to AEDC of Niger state as it will enlighten them on the planning strategies that should be adopted, control

measures used, organizing process involves and directing procedure processes in the management of electricity for effectiveness and efficiency of AEDC in Minna Niger State.

The study will provide information to help the AEDC engineers and supervisors in handling their various responsibilities through effective personnel management, it will motivate participants in AEDC. It will enhance and improve the skills of professionals in the electrical sector in term of knowing the planning strategies in the industry and how it can be executed.

5.5 Suggestion for Further Studies

The following suggestions are made for further research.

1. Assessment of the management of Ibadan Electricity Distribution Company in Oyo, State.
2. Evaluation on the management of Ibadan Electricity Distribution Company Services to consumers in Oyo, State.

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APPENDICES

QUESTIONNAIRE

ASSESSMENT OF THE MANAGEMENT OF ABUJA ELECTRICITY DISTRIBUTION COMPANY IN MINNA NIGER STATE.

AEDC: I am an undergraduate students from the department of Industrial and Technology Education conducting a research on the Assessment of the Management of Abuja Electricity Distribution Company in Minna, Niger State**.**

Please respond the respond the items by ticking (√) appropriately, The information given will be used for confidential purpose using the response rating scale as follows:

Strongly Agree	=	SA	=	4
Agree	=	A	=	3
Strongly Disagree	=	SD	=	2
Disagree	=	D	=	1

SECTION A

PERSONAL DATA

AEDC Staffs ☐

Electricity Consumers ☐

SECTION B

Research Question 1

What are the planning strategies adopted in the management of AEDC in Minna Niger State?

s/n	ITEMS	SA	A	SD	D
1	Ensuring the availability of equipment to be used for AEDC				
2	Ensuring the availability of tools to be used for AEDC				
3	Ensuring the availability of materials to be used for AEDC				
4	Identification of practical objectives for AEDC				
5	Consideration of duration for the workshop, seminar				
6	Listing clearly the roles expected to be performed by the AEDC workers				
9	Clearly stating the roles to be performed by the workers				
11	Drawing up step-by-step procedure to be used in carrying out each task				
12	Preparation of learning sequence to be adopted				
13	Listing in order, the activities to be done				
14	Examining the tools and materials necessary for the activities to be performed Arrangement of workshop facilities based on current workers' enrolment				
15	Arrangement of workshop facilities based on current workers' enrolment				
16	Arrangement of workshop facilities based on current workers' enrolment				
17	Arrange to set up the workshop layout with adequate gangways and work areas				
18	Provision for suitable water within the workshop				
19	Provision for adequate number of toilets and bathrooms				
20	Provision for adequate demonstration area for workshop lesson in the shop.				
21	Provisions for adequate ventilation and illumination in the workshop.				
22	Arrange to locate machines, switches and socket outlets for convenience and safety.				
23	To locate the machines and equipment appropriately on the workshop floor.				
24	Provisions for workers to have easy access to materials, tools and equipment.				

Research Question 2

What are the control measures uses in the management of AEDC in Minna, Niger state?

s/n	ITEMS	SA	A	SD	D
1	Auxiliary rooms are enclosed by partitions to reduce interference.				
2	Equipping machines with fumes and dust removal system such as fume hoods or vacuum machines				
3	Reducing noise of AEDC transmitting station in the society				
4	Avoidance of electric shock for AEDC staff in the process of discharging their duties in the society				
5	Regular inspection of transmitting stations and cables in order to replace bad ones and enhance power				
6	good layout of cables and power line to facilitate and control effective movement of the people in the society				
7	Preparation of directives for the use of machines, tools and materials in the workshop				
8	Maintaining a complete inventory of equipments and tools at the end of each operations				
9	Employing a competent staff to be responsible for the effective mangement of tools and equipment				
10	Guiding staff in the proper handling of tools and equipments to prevent misuse of tools and equipments				

11	Supplying the right quality and quantity of materials to the AEDC organization				
12	Maintaining an accurate inventory of materials in stock				
13	The security arrangement of the workshop is improved by checking pilfering of tools by the staffs				
14	Careless loss of tools and equipments due to pilfering or vandalism must be constantly checked				

Research Question 3

What are the organizing processes involves in the management of AEDC in minna Niger state?

s/n	ITEMS	SA	A	SD	D
1	Arrangement of tools and materials before and after use				
2	Laying out the equipment to ease their cleaning and maintenance				
3	Layout of equipment to promote safety				
4	Arranging equipment for efficient flow of materials from storage to finished products				
5	Proper arrangement of general cabinets in the workshop to enhance good services				
6	Identification and selection of equipment and materials based on projected activities for workers				
7	Selection of projects should be done to match workers aspiration				
8	Procedures have to be arranged in accordance with sequence of performance by the staff				
9	Materials should be arranged according to their uses				
10	Equipment and tools should be arranged in sequence like sizes, uses, colour, for ease of reference and accountability				
11	Proximity, to tools for use should be of high priority				
12	Tools should be organized and arranged so that adequate supervision is enhance				
13	Ensuring that all safety provisions to be used for the activities that are put in place				
14	Selection of practical projects within the ability of the workers				

Research Question 4

What are the directing procedure processes in the management of the AEDC in Minna Niger State?

s/n	ITEMS	SA	A	SD	D
1	Grouping AEDC staff to execute specific project				
2	Available equipment and facilities should be arranged for different uses of operations				
3	Euipments and tools should be allocated to staffs for different uses				
4	Making sure that different tools and equipment are used harmoniously in the process of discharging operations				
5	Training of staffs on the installation, operation and maintenance of new equipment by experts				
6	Provision of safety devices to improve safety arrangement in their activities				
7	Maintaining a cordial relationship between staff and electricity consumers in the society to work together for the realization of AEDC objectives				
8	There should be sharing of specific roles in the management of AEDC organization for their staffs				