
Ergonomics and Employees' Engagement of Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria

¹**Micah Bernard Effiong**

Department of Business Administration
Akwa Ibom State University

²**Christabel Divine Brownson, Ph.D**

Department of Business Administration
Akwa Ibom State University

³**Akpan Aaron Udo, Ph.D**

Department of Business Administration
Akwa Ibom State University

Correspondence email: micaheffiong80@gmail.com

ABSTRACT

Employees' engagement is increasingly recognized as a crucial factor contributing to organizational performance. However, the underlying ergonomic factors that enhance employee engagement remain a subject of debate. This study, "Ergonomics and Employees' Engagement in Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria" investigates the relationship between ergonomics and employees' engagement considering two dimensions of ergonomics: role clarity and workforce training as the independent variable, and employees' engagement as the dependent variable. The study utilizes a descriptive survey research design to determine the relationship that exist between the indices of the two variables. Also, the study population comprised 227 staff members of Excellence Community Education Welfare Scheme (ECEWS) across all branches in Akwa Ibom State, Nigeria. A sample size of 124 staff was determined using the Taro Yamane formula, ensuring equal participation and minimizing bias in the selection process. Primary data were collected using a closed-ended questionnaire, enabling quantitative statistical analysis. Pearson Product Moment Correlation (PPMC) was employed to test two hypotheses using the Statistical Package for the Social Sciences (SPSS). role clarity and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State with a correlation coefficient of $R_{x_2} = 0.651$ and there is significant relationship between workforce-training and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State with a correlation coefficient of $R_{x_6} = 0.769$. It was recommended that clear roles help ensure efficiency, accountability, and overall success and when each team member understands their responsibilities, tasks are completed faster and with fewer errors, allowing the organization to maximize its impact. Similarly, it was recommended that organisations make comprehensive workforce training programs a strategic priority. This implies they should set aside enough financial and human resources to create, execute, and evaluate training across all departments and levels.

Keywords: Ergonomics, workforce training, role clarity, employees' engagement, NGOs, Nigeria

Introduction

In business, economic experts such as Hirschey and Pappas (1993), gave a generally accepted assumption that organizations worldwide prioritize two key objectives: profit maximization and cost minimization. Given these two objectives, it is essential to note that the driver of these objectives is the “human factor”, precisely engaged employees. Engaged employees are catalysts for achieving these goals, as they are more motivated, productive, and committed to organizational success. The work environment plays a crucial role in influencing employee engagement and subsequent productivity.

Ergonomics is the science of designing equipment and workspaces to fit the people who use them, is increasingly recognized as a critical factor in creating optimal work environments. By addressing physical and cognitive factors that can lead to discomfort, fatigue, and injuries, ergonomics can enhance employee well-being, satisfaction, and engagement. However, many organizations adopt a one-size-fits-all approach to work environment design, neglecting individual differences and situational variations. This can result in suboptimal outcomes, reduced employee engagement, and hindered organizational performance. As Reissova and Papay (2021) highlighted, engaged employees are more likely to be genuinely committed to their organization's goals and inspire their colleagues to do the same. Employee engagement has been linked to positive outcomes such as increased job satisfaction, reduced absenteeism, and lower turnover rates.

Garg and Singhal (2022), underscored the role of ergonomics in promoting employee well-being and engagement. By addressing potential physical and psychological risks, ergonomics can create a more comfortable and secure work environment, fostering employee satisfaction and motivation. This study aims to investigate the potential relationship between ergonomics and employee engagement within the context of Non-Governmental Organizations (NGOs), using Excellence Community Education Welfare Scheme (ECEWS); one of the leading NGO in Nigeria as a study. By exploring this relationship, the study seeks to contribute to a deeper understanding of how ergonomic interventions can enhance employees' engagement and overall organizational performance.

1.2 Statement of the Problem

This research is based on the foundation that many organizations, particularly those with high operational demands such as Non-Governmental Organizations (NGOs), often place employees in work environments that are not tailored to their ergonomic needs. This lack of ergonomic consideration in Non-Governmental Organizations (NGOs) could hinder optimum employees' engagement and ultimately limit increased productivity. Similarly, poor ergonomic design in the workplace can lead to musculoskeletal disorders, fatigue, reduced productivity, and disengagement.

While the significance of ergonomics has been acknowledged in sectors such as education (Ojeleye, Abdullahi and Salami, 2023) and energy (Ogolo, 2023), there is a little or no existing research that examines the application and impact of ergonomics within the NGO sector. These prior studies, though insightful, are limited by their industry focus, population specificity, and methodological approaches, thereby limiting their generalizability to other contexts. As a result of this, there is a gap in empirical research that, specifically speaking, addresses the ergonomic practices within NGOs like the Excellence Community Education Welfare Scheme (ECEWS), with particular attention to the ways and manner that such practices influence employee engagement and performance.

Since ECEWS operates in a resource-constrained yet high-impact environment where employee engagement and operational efficiency are essential, it poses a great demand to understand the implications of ergonomic interventions on employee engagement in such a setting is crucial. Addressing this gap has the potential to inform both policy and practice, not only within ECEWS but across similar NGOs striving for operational excellence and staff retention amidst demanding roles. Therefore, this study seeks to answer this question: what is the relationship between the variables of ergonomics such as and employees' engagement in the Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria and how can ergonomic practices be optimized to enhance employee well-being and organizational performance in the NGO sector?

1.3 Objectives of the study

The primary aim of this research is to explore the connection between ergonomics and employee engagement within the Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria. Specifically, the study is guided by the following objectives, to:

- i. To investigate the relationship between role clarity and employee engagement in the Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.
- ii. To determine the relationship between workforce training in enhancing employee engagement in the Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

1.4 Research Questions

This study seeks to provide answers to the following research questions:

- i. What is the relationship between role clarity and employee engagement in the Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria?
- ii. What is the relationship between workforce training and employee engagement in the Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria?

1.5 Research Hypotheses

The following null hypotheses were formulated to guide the study, thus: that there is no significant relationship between:

H₀₁: There is no significant relationship between role clarity and employee engagement in the Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

H₀₂: There is no significant relationship between workforce training and employee engagement in the Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

1.6 Significance of the Study

The findings of this study are relevant to the following;

Academicians: Learning the relationship between ergonomics and engagement in the Non-Governmental Organizations environment can generate novel insights such as; Researchers can investigate into the psychological and sociological dimensions of engagement in NGOs, examining how physical work environments affect these aspects of the employees using the findings of this study as a foundation for their investigation; Existing ergonomic and engagement models may not fully capture the nuances of the NGO sector. Academicians can

develop tailored frameworks that account for the unique challenges and opportunities using the findings from this study.

Findings from this research contributes to the development of evidence-based employee relations best practices for NGOs, leading to improved working conditions and enhanced employee well-being. Publication of this research will increase the awareness of the importance of these topics within the NGO sector, and to the general public and provide the foundation for further studies. The findings from this study will increase interdisciplinary collaboration, bringing together experts in fields such as occupational health, psychology, sociology and management.

Organizations (NGO Leaders, Managers, Boards): Implementing the findings on ergonomic interventions from this research by NGOs leaders can reduce musculoskeletal disorders, work-related injuries, and fatigue, leading to improved employee health and well-being. Findings will also show how engaged employees are highly motivated, productive and committed to the organization's mission, contributing to greater organizational effectiveness. Related studies have proven that NGOs often struggle with high turnover rates due to burnout and stress. Hence, this study will underscore the essential of ergonomics and engagement and ways of creating a more supportive and fulfilling work environment, leading to increased retention within the NGOs.

Human Resource Professionals: Findings from this study provides a foundation for Human Resource professionals to promote organization's commitment to ergonomics and engagement as a competitive advantage in attracting and retaining top talent. From the results of this study, HR experts can incorporate ergonomic assessments and engagement surveys into the recruitment and onboarding process to provide a seamless recruitment process. Findings will also serve as a pivot for HR Leaders to develop policies and procedures that promote ergonomic best practices, flexible work arrangements, and employee well-being to boost employee morale and increase organizational efficiency and effectiveness.

1.7 Scope of the Study

This study centers on the ergonomics and employees' engagement in Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria. Geographically, this study was carried out in ECEWS Akwa Ibom State, Nigeria. The content scope contains the variables of ergonomics, which are: capture, role clarity and workforce training while the dependent is held constant. The Unit scope captures all responders comprising all top-level management, middle-level management and lower-level management staff of the branches of ECEWS in Akwa Ibom State, Nigeria.

1.8 Limitations of the Study

This research faced several constraints typical of academic investigations. Firstly, the intended scope of the study could not be fully achieved due to the high cost associated with data collection and the limited time available for completing the research. Additionally, the sensitivity of the respondents posed a significant challenge, as many employees found it difficult to grasp the purely academic purpose of the study while completing the questionnaire. Consequently, some participants perceived their responses as potentially implicating, which affected the quality and openness of the data collected. Furthermore, at the early stage of the research, the management of the organisation under study was hesitant to provide access to essential data required for comprehensive analysis, leading to unnecessary delays in the research process. Lastly, the study was constrained by the substantial cost of procuring the appropriate software needed to perform accurate and robust data analysis on the responses obtained.

The following ways were adopted to manage the limitations posit by this study; To manage the limitation of Cost and Time Constraints, focus was given carefully to selected representative sample that allows for in-depth analysis rather than considering a broad, exhaustive sample. Hence, a stratified sampling was used to ensure representation of different departments or roles within Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria. The study utilized an online surveys and data collection tools such as Google form to reduce travel costs and time spent on data entry.

On the sensitivity of sample elements and fear of implication, the researcher emphasized on guarantee for anonymity and confidentiality on the responses provided without fear of repercussions. Hence, coded questionnaires for online surveys that do not collect personally identifiable information was deployed with utmost security accessible to only authorized researchers. To manage the pessimism from the organization, the researcher engaged with key stakeholders within the organization particularly the Human Resource Personnel from the outset, clearly articulate the objectives of this study and potential benefits to the organization.

REVIEW OF RELATED LITERATURE AND THEORITIACL FRAMWORK

A conceptual framework is the diagrammatic presentation of variables, showing the relationship between the independent variable and dependent variables. In this study, the independent variable is; ergonomics and the dependent variables is employees' engagement. Adapting from the work of Olabode, Adesanya and Bakare (2017) this study centres on two (2) dimensions of ergonomics which serves as the independent variable namely; role clarity and workforce training ergonomics as displayed below in the diagram. Additionally, the dependent variable which is employee engagement will remain constant. This study sought to understand how these various components of the independent variables affect the level of employee engagement which is the dependent variable. Hence, this relationship is presented schematically in the conceptual framework in Figure 2.1.1 below;

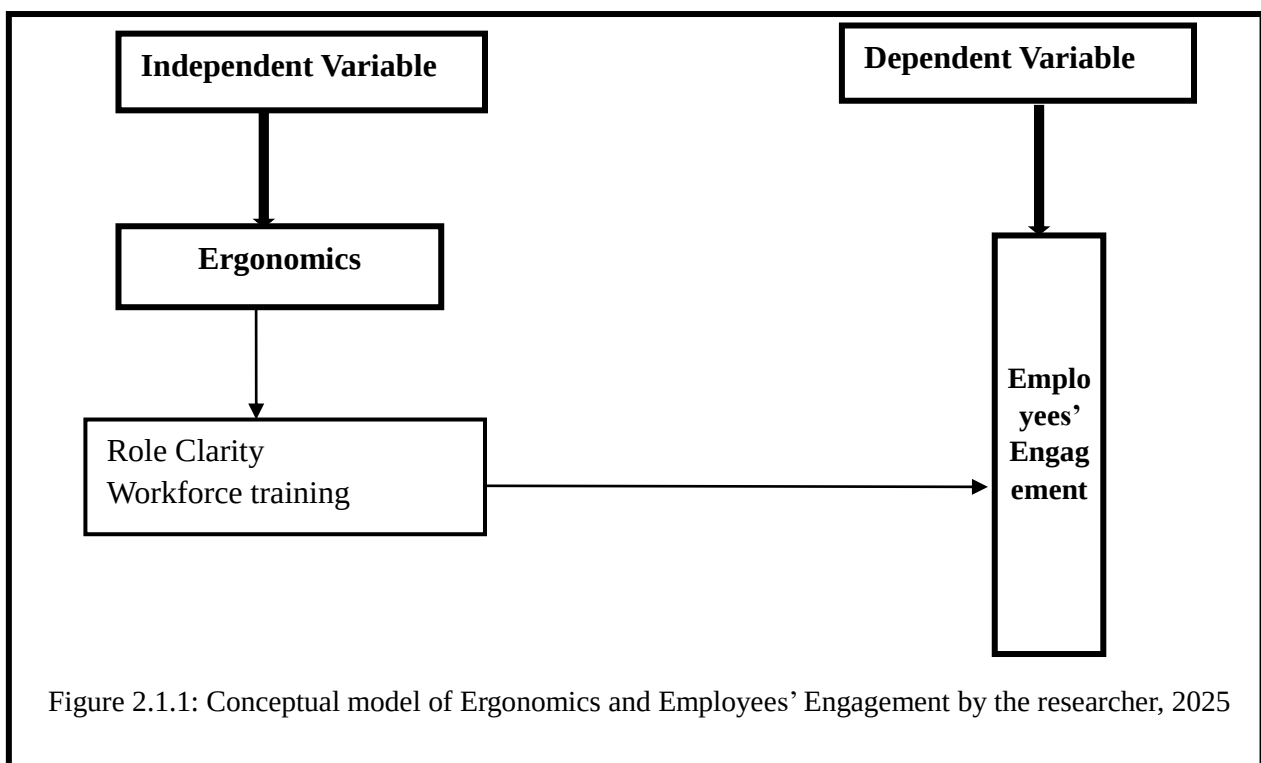


Figure 2.1.1: Conceptual model of Ergonomics and Employees' Engagement by the researcher, 2025

The diagram above reveals that there are two variables that form the topic for this research and that is, the independent variable which is ergonomics and the dependent which employees' engagement. The researcher examined how different indicators of ergonomics influence employees' engagement. The indicators of ergonomics are as follows; role clarity and workforce-training. On the other hand, the dependent variable is employees' engagement is held constant. Additionally, the directional arrows indicate how the indicators of ergonomics flow from the left to meet with the dependent variable at the right - portraying how employees' engagement depends on the ergonomic.

2.1.1 Concept of Ergonomics

According to Irimie, 2008 as cited in Nevin Mansour and Fatma Abdelaal, (2021) the concept of Ergonomics is traceable to the Greek word "ergon" meaning "work", and "nomoi", meaning "natural laws". Ergonomics which is also known as human factor, biotechnology, or human engineering is defined in Merriam Webster dictionary as the applied science of arranging and designing things in an order that people can interact with them safely and more efficiently. In the words of Wilson, (2000) as cited in Bajaj, Coelho and Kunte, (2022) ergonomics is "the theoretical and fundamental understanding of human behaviour and performance in purposeful interacting socio-technical systems, and the application of that understanding to design of interactions in the context of real settings".

In other words, it is the study of thoughtful collaboration of people with the environment in which they carry out job functions, with the intention of creating an adjustment to ensemble their desires to geared a greater level of efficiency duties and responsibilities. An ergonomic friendly environment allows workers to perform their tasks accurately and comfortably through the ergonomics factors such as; workforce training and role clarity.

2.1.2 Dimensions of Ergonomics

According to the study carried out by Mansour and Abdelaal, (2021), three broad dimensions were considered as factors that forms ergonomics which are; physical, cognitive and organizational which takes into consideration factors such as; office settings, co-workers support, role clarity and telework (remote), reward system and workforce training.

2.1.2.1 Role Clarity: This means an employee's having a clear understanding of their roles, responsibilities, and expectations within the organization, they are more likely to be engaged and motivated in their work (Panari, Caricati, Pelosi, and Rossi, 2019). Additionally, Role clarity provides individuals with a sense of purpose and direction, allowing them to prioritize tasks, make informed decisions, and effectively contribute to the overall goals of the institution (Alnuaimi, 2022; Bellamkonda, Santhanam, and Pattusamy, 2021).

2.1.2.2 Workforce-training: Training is a process that aims at improving performance of employees on their current jobs as training provides them with new knowledge and skills that they require for their current job. According to this study refers to career growth and development among the employees, acquisition of new skills which leads to improved productivity among the employees (Neranto, 2022).

2.1.3 Concept of Employee Engagement

Employee engagement was initially known as personal engagement. It was defined as the simultaneous employment and expression of a person's 'preferred self' in task behaviors that promote connections to work and others, personal presence, and active full-role performances" (Kahn, 1990; Priyashantha, De Alwis and Welmilla, 2022). It was observed that People engage in work for three reasons; Meaningfulness, Safety, and Availability. In the

pioneering work of Khan, (1990) as cited in Geetha and Ramesh (2021) it was found that, "Engaged employees drive personal energies (physical, cognitive, and emotional) into their work roles".

Kahn's qualitative study attracted the interest of several scholars, who subsequently defined participation in different ways. Based on theoretical observations, Kahn began with the work of Goffman (1961), who postulated that individuals differ in how attached and detached they are to their professional positions. Researchers Maslach and Leiter (1997) and Maslach et al. (2001) took a different tack; they believed that engagement was the antithesis of the three burnout qualities of fatigue, cynicism, and a sense of inadequacy. According to the Council on Corporate Leadership, "employee engagement" is defined as the degree to which employees care about the success of their company, are prepared to go above and beyond in their work, and intend to stay with the company for an extended length of time.

Employee engagement, according to Ernst and Young, is the "psychological investment" in one's company that inspires one to perform above and beyond expectations (Ogolo, 2023). Loyalty may be defined as a willingness to support one's colleagues and a commitment to one's employer and its principles. Any company's success is negatively impacted by employee engagement. However, according to Gallup (2021), the current worldwide employee engagement rate is merely 20%, meaning that 80% of workers are disengaged from their occupations. This implies that people physically stay at work but emotionally quit (Turner, 2020). According to Konard (2006), employee engagement is a multifaceted notion that includes behavioural, emotional, and cognitive (or rational) elements. A balanced definition of employee engagement must account for behavioural, emotional, and cognitive aspects.

2.1.4 Dimensions Employees' Engagement

The dimensions of employee engagement are adapted from the work of Dyke-Ebirika Ngozi and Amah Edwinah, (2022) which outlined three(3) indices of employee engagement namely; cognitive engagement, affective engagement and behavioural engagement;

2.1.4.1 Cognitive Engagement: The term "cognitive engagement" refers to a psychological phenomenon that may be seen via several lenses depending on the context of the workplace, such as "meaningfulness," "safety," and "resources" (Kahn, 1990; Rich et al., 2010; Ogolo, 2023). According to the study conducted by employee research consultancy ISR in 2008, it was found that affective and cognitive employee engagement were equally important to organizations in terms of driving financial performance. The cognitive engagement variable, according to Satata (2021), includes how employees view their company, its leadership, and the workplace. When employees are cognitively engaged, they are trying to evaluate their job and find ways to make it better. As a result, this feature is a mental step in the process. An employee's degree of cognitive participation is influenced by their beliefs about the company, its executives, and the work environment. Employees that are intellectually engaged care about the company's overall performance and know how to maximise their productivity.

2.1.4.2 Affective Engagement: When employees like their work and care about the company's success, they are said to be emotionally engaged. They like their coworkers as much as their work. They are happy with their accomplishments and like their work (Spector, 2021). Employees get emotionally attached to workplace and this term is regarded as "affective engagement," the longer an employee gets involved in the growth and development of an organization, the stronger the sense of emotional investment in the success of the company and its people. According to Boswell and Boudreau (2010); Dyke-Ebirika

and Amah (2022), it was argued that an observer 's emotional reactions to a target are an outcome of cognitive appraisals meaning that affective engagement happens when one has a deep emotional connection to the company work for and how admirable the nature of the job is to the employee.

2.1.4.3 Behavioural Engagement: An engaged worker goes above and beyond to meet the needs of the company, shows initiative and proactivity, promotes the company's culture and values, is in the zone, embraces the company's tenets, maintains vigilance and concentration, and is convinced that his or her efforts will have a positive impact (Macey, 2006; Kaufman et al., 2007 as cited in Ogolo, 2023). In addition, behavioral commitment and discretionary effort is variously expressed as: pride in the organization and willingness to extol its virtues; and intent to remain with the organization (Chandrashu and Sinha, 2012); this involves, discretionary effort, that is, being prepared to take further measures the normal role requirements.

2.1.5 Ergonomics and Employees' Engagement

The essentials of ergonomics in an organization cannot be downplayed for the sake of work-life balance of the employee and effective delivery of the goals and objectives of the organization. Several studies have been carried out by credible researchers on the subject matter to determine the relationship between the two variables.

2.1.5.1 Role Clarity and employees' engagement

Role clarity has been employed as a moderator of several organizational outcomes. For instance, as a moderator of the relationship between authentic leadership and psychological empowerment by Towsen, et'al (2020) and the study posited that when employees have a clear understanding of their roles and responsibilities, they may be more likely to perceive co-worker support as a valuable resource that enhances their work engagement, reinforcing the social exchange process within the organization.

Similarly, Choudhary and Jain (2024) study on systematic literature review to explore the antecedents of employee engagement among remote workers analyzes various factors influencing employee engagement in remote work settings, including role clarity. The study identifies role clarity as a crucial antecedent of employee engagement, particularly in the context of remote work where clear communication and expectations are paramount. This further strengthens body of knowledge on the positive significant relationship between role clarity and employees' engagement.

2.1.5.2 Workforce-training and employees' engagement

Bhakuni and Saxena (2023) investigated the relationship among employee engagement, retention, and training and development. One of the study's main conclusions is that staff training and development are essential to the expansion and improvement of the company. Putting into practice various creative tactics developed by various organisations raises performance levels and leads to increased profitability and productivity. Additionally, Hassett (2022) investigated how job engagement rates among U.S. Federal employees were impacted by access to training and development opportunities. According to the study's findings, better levels of job engagement among federal employees are positively correlated with having access to training and development opportunities.

In a similar vein, Sendawula et al. (2018), referenced in Neranto (2022), maintained that on-the-job training is advised for the development of new and future managers. The aforementioned researches were carried out in a general organisational setting rather than an educational one. The results of this earlier research were ineffective in addressing the

problems of employee engagement in the educational sector because of the formality of educational systems and their varying relationship degrees; so, this study was necessary to close the contextual gap.

2.2 THEORETICAL FRAMEWORK

There are several theories that are peculiar to the concept of ergonomics and employee engagement, but for the purpose of this study we shall focus on the theory of work adjustment (TWA) and Social Exchange Theory (SET). This is because the theory tries to uncover the relationship between an individual to the appropriate setting of the work environment. The tenet centers on how workers in organization are more committed to their duties considering the available motivational factors put in place by the management of the organization.

2.2.1 Theory of Work Adjustment by John L. Holland

The Theory of Work Adjustment (TWA) was developed by John L. Holland in the 1950s and 1960s. Holland, a psychologist, was interested in understanding the relationship between individuals' personalities and their career choices. His research led him to develop the concept of personality types and their corresponding occupational environments. The theory of work adjustment (TWA) also referred to as the person-environment correspondence theory was later revised by Davis et al in 1964. TWA is the product of more than five decades of research at the University of Minnesota.

The impact of TWA extends far beyond informing career guidance counseling sessions. TWA conceptualizations of work have been adopted by U.S. government agencies responsible for public health and the welfare of workers. This theory describes the relationship of an individual with their work environment. It is all about working a job successfully after an individual has chosen and engaged in an occupation (Musah, 2022).

According to Musah 2022, Davis et al. (1964) also enumerated six essential ideals that people try to fulfil via their employment, which are:

- i. Achievement: Situations that promote success and advancement.
- ii. Comfort: Situations that promote relaxation.
- iii. Status: The circumstances that provide honour and distinction.
- iv. Altruism: Situations that promote peace and helping others.
- v. Safety: Predictability and stability-establishing conditions.
- vi. Autonomy: Situations that boost individual initiative and control.

Accordingly, the theory of work adjustment seeks to uncover the relationship between an individual to the appropriate setting. Similarly, when an employee's desires are fulfilled with the work they perform and also when an employee's abilities are matched with the particular skills needed to ensure the performance of the work performed, the most beneficial result typically occurs (Wiraka, Ngui, and Mwanzia, 2020). Hence, this theory demonstrates that to actualize the optimum potential level of employee in an organization, there are important elements that need to be preserved which could also be workplace environmental factors.

In Nigeria today, the applicability of the theory of work adjustment is remotely effective. It has been observed that people or employees' disposal to their jobs no longer produce optimum results as it used to be in the past. Odeyemi and Idowu (2015), explained that work in the 1960s and 1970s was seen as a tool for survival and fulfillment. Hence, this theory would be most applicable to this study because it highlights the essential elements management of organizations should endeavor to provide such as a conducive work environment for their employees to find work pleasurable and utilize their skills and

knowledge to the fullest and the best the interest of the organization. It is considered that the provision of a conducive working conditions and basic tools for required for each job role enhance the quality of their work.

2.1.2 Social Exchange Theory by John Thibaut

Since its inception at the close of the 1950s, Social Exchange Theory (SET) has grown into a substantial corpus of work on social behaviour. Both utilitarian and sociological perspectives on relationships inside social networks have been explained by the theory (Blau, 2017). The writings of John Thibaut, George Homans, Peter Blau, and Harold Kelley were primarily responsible for the theory's genesis and growth. In order to comprehend interpersonal connections in communities and dyadic relationships, they were interested in the psychology of small groups. Social exchange theory, or SET, is a concept in social psychology that focuses on how people interact with others as a sort of exchange or transaction (Blau, 1961).

Fundamentally, according to Cropanzano et al (2017), SET proposes that people get into relationships and engage in transactions with others in the hope of obtaining something worthwhile in return. In addition to intangible incentives like emotional support or recognition, this can also include concrete rewards like help, resources, or support (Cook et al 2013). SET posits that individuals assess the costs and benefits of these social exchanges and are more likely to engage in them when they perceive that the benefits outweigh the costs (Ojeleye et al 2022; Cropanzano and Mitchell, 2005). This theory helps us understand various social interactions, including friendships, work relationships, and even economic transactions, by highlighting the inherent reciprocity and evaluation of gains and losses that underlie human social behaviour (Nunkoo, 2016).

The Social Exchange Theory can help us understand the dynamics of the relationship between co-worker support, work engagement, and role clarity among staff in Federal Colleges of Education in Northern Nigeria. In the context of this study, co-worker support represents a form of interpersonal exchange, where employees provide assistance, cooperation, and emotional support to their colleagues (Ojeleye et al., 2022). In return, they anticipate receiving similar support or other valuable outcomes, such as increased work engagement. Role clarity plays a moderating role by influencing the perceived value of co-worker support. When employees have a clear understanding of their roles and responsibilities, they may be more likely to perceive co-worker support as a valuable resource that enhances their work engagement, reinforcing the social exchange process within the organization.

2.3 Empirical Review

Remarkably, there are several studies that have been conducted but there is still a gap due to differences industries, location, unequal population for the conduct of the research and divergence method of data analysis. Hence, the following studies validate some key areas of the review of the previous studies which serves as a foundation for this work.

Ipmawan et al (2025), studied on the impact of absorption, ergonomics, and physical work environment on enhancing women's productivity in industry. The study examined the impact of absorption, ergonomics, and the physical work environment on enhancing women's productivity in the industrial sector. Data were collected from female employees at PT Surya Toto Indonesia Tbk using a purposive sampling technique and analyzed through Smart PLS version 4. The findings emphasized the need for organizations to address barriers to absorption, prioritize ergonomic workplace designs, and invest in conducive physical work environments to maximize productivity.

Karmacharya et al. (2025) used a sequential explanatory strategy to investigate the association between ergonomic practices and employee performance in banking. The study elucidates the impact of ergonomic procedures on the performance of banking professionals by utilising the sequential explanatory approach. Data from 267 banking employees was collected and analysed. Seven frontline staff members participated in a purposely semi-structured interview using PLS-SEM and Heidegger's interpretative philosophy. The study found that organisational and cognitive ergonomics significantly influenced employee performance, however environmental and physical ergonomics were not supported.

In Umuahia, Abia State, Nigeria, Amaechi-Chijioke, Fashakin, and Uzoho (2025) investigated the effects of ergonomic techniques on housekeeping performance in hotel operations. The particular goals were to find out how housekeepers receive ergonomic training, how much an organization's equipment arrangement influences housekeepers' performance, and how ergonomic working circumstances impact housekeepers' performance. The survey research design was used by the researchers. The results indicate that the average evaluations of the correlation between housekeeping performance and ergonomic working conditions were 0.824 and significant at 10%. According to the study's findings, ergonomics procedures significantly enhance hotel housekeepers' performance.

In order to better understand how businesses may create a positive work environment to increase employee happiness and lower turnover, Mairaj et al. (2024) looked at the effects of several ergonomic and workplace aspects on employee retention. Key factors such as workstation design, safe lifting practices, job rotation, anti-fatigue mats, ergonomic tools and equipment, break scheduling, and work-life balance were all investigated in the study using structural equation modelling. The results showed that ergonomic variables had a considerable impact on staff retention, with the strongest favourable relationships seen with ergonomic tools and correct lifting techniques. The investigation highlights the significance of these elements in retention efforts by showing that workers who experience a supportive ergonomic environment are more likely to remain with their company.

In a meta-analysis research, Dogan (2024) investigated how ergonomic concerns among employees were evaluated in relation to occupational health and safety practices. The purpose of the study was to assess workplace ergonomics in relation to occupational health and safety procedures. Without any time constraints, searches were conducted between January and March 2024 on databases such YÖK Thesis, EBSCO, Web of Science, and Google Scholar to gather the data utilised in the analysis. The search results contained a total of 15 research studies. Meta-analysis and narrative synthesis techniques were used to combine the collected data. According to the analysis's findings, the procedures put in place to deal with the ergonomic problems that workers encountered at work were successful.

At the Enugu State Board of Internal Revenue, Opara and Nnaji (2024) looked into workplace ergonomics and staff service delivery. The study's compass was one specific research subject and goal. A survey method was employed, utilising both primary and secondary data sources. The Statistical Package for the Social Sciences (SPSS) was used to assess the study hypotheses at the 0.05 level of significance using the regression analysis technique, and tables and percentages were used to illustrate the data that was gathered. According to the evidence, the physical environment has a major influence on employee performance.

Yattani, Wario, Ombui and Nyang'au (2024) studied the ergonomics of the workplace and employee performance in Kenyan private security companies that were registered. It assessed how worker performance in Kenyan private security firms was affected by

workplace ergonomics. The research was based on the Two-Factor Theory of Motivation. The study's research technique was positivism. The study used both descriptive and correlational research designs. The research population consisted of 13,484 members of the Kenya Security Industry Association (KSIA) and Protective Security Industry Association (PSIA). The study's findings demonstrated a favourable and substantial correlation between workplace ergonomics and employee performance in Kenyan private security firms. The relationship between workplace ergonomics and employee performance is crucial as it may have a big effect on both individuals and businesses.

The impact of physical ergonomic elements on professors' performance at public universities in Anambra State, Nigeria, was examined by Osita et al. in 2024. 200 people made up the study's population; 187 of the questionnaires were returned and analysed using the census technique. It was determined that the correlation between ergonomic factors and academic performance is very high and significant at the 0.01 levels ($.000 < 0.01$), and the results showed a positive relationship between ergonomic factors and academic performance in the universities that were the subject of the study. The null hypothesis was disproved, and it was instead agreed that there is a substantial correlation between academic achievement at public universities in Anambra State, Nigeria, and physical ergonomic characteristics.

Johnson, Okebaram and Emerole (2024), studied on effect of interactional justice on employees' engagement of civil service commission in south-south, Nigeria. The study was to assess the effect of interactional justice on employees' engagement of civil service commission of south-south, Nigeria. The dimensions of interactional justice used in the study were informational justice and interpersonal justice while the measure of employees' engagement were employees' efficiency and employees' output. The result of the findings showed that interactional justice significantly boosts employees' engagement of Civil Service Commission in South-South, Nigeria. Also, informational justice and interpersonal justice has a positive significant effect on employees' efficiency and employees' output respectively.

Nnonyelu (2023) conducted a conceptual review to better understand ergonomics in Nigerian workplaces. The purpose of the study is to shed light on the idea and use of ergonomics in Nigeria. It shows that even though ergonomics is popular worldwide, Nigerian workplaces have not yet adopted it. The assessment of literature on ergonomics awareness, demonstrates that it is still quite low. The qualitative review also notes that the nature of the Nigerian industrial system, a lack of funding, the animosity of employers in the public and private sectors towards ergonomics, and employees' lack of understanding of the fundamentals of ergonomics have all contributed to the rudimentary state of ergonomics, or workplace reset.

Adiga (2023) conducted a review of the literature on improving ergonomics and occupational health for the best possible workplace well-being. Examining how workplace design, which includes physical layouts, equipment placement, and organisational procedures, attempts to create effective, secure, and pleasant workspaces that maximise productivity and reduce hazards was the study's goal.

According to research, ergonomics plays a critical role in assisting an ageing population by modifying work settings to take into account shifting physical and mental requirements. Taking into account elements like furniture, lighting, and technology configuration, ergonomic principles are essential in remote work settings to avoid pain and increase productivity. Ergonomics also relates to digital nomads, who need portable ergonomic gear and adjustable workstations to ensure comfort when traveling.

Ogolo (2023) conducted research on the Psychosocial Work Factor and Employee Engagement in South-South Nigerian Electricity Distribution Companies. The study looked at the connection between employee engagement and the psychosocial work element in South-South Nigerian power distribution firms. The findings showed that emotional and cognitive engagement are significantly and favourably correlated with job demand, reward, and work features. Affective and cognitive involvement have been found to be adversely correlated with work-family conflict.

Drewniak et al. (2023) looked at how ergonomics and job satisfaction were affected by working remotely. The article's goal is to demonstrate how remote work affects worker satisfaction and ergonomics. The study's goal was interpreted from the standpoint of how corporate personnel were affected by working remotely. Employees of a firm in Bydgoszcz, Poland, provided the study's data. To determine the association between work ergonomics and remote task performance, as well as between remote work and job satisfaction, the study employed the partial least squares (PLS) analytic approach. The results of the study reveal that ergonomics closely effects work satisfaction. The findings also supported the idea that task performance is significantly impacted by working remotely.

Ojeleye, Abdullahi, and Salami (2023) looked at how role clarity affected employees' support of colleagues and job engagement at Nigeria's Federal Colleges of Education. This study looked at the effects of coworker support and job clarity on employee engagement at Federal Colleges of Education in Northern Nigeria. A survey-based, cross-sectional study approach based on a structural equation modelling (SEM) framework was employed to examine these interrelated components. Strong associations between role clarity and work engagement as well as between colleague support and work engagement were found in the study, underscoring the importance of supportive working relationships and defined roles in enhancing job engagement.

Research on organisational sustainability and ergonomics was carried out by David, Ukpog, and Usoro (2022) at Peacock Paint Limited in Ikot Ekan, Etinan L.G.A., Akwa Ibom State. The study's goal was to look at the connection between organisational sustainability and ergonomics. The study's conclusions demonstrated the relationship between organisational sustainability and work posture, mental workload, new work paradigms, and industrial layout. The conclusion is that organisational sustainability and ergonomics are related.

Kulkarni, Appasaba, and Nishchitha (2022) investigated how COVID-19 affected banking employees' ergonomics and engagement. The purpose of the article is to shed light on how COVID-19 affects ergonomics and employee engagement in the banking industry.

Information for the survey is gathered from workers in India's banking industry. Partial least squares (PLS) analysis was used in the study to determine how ergonomics and employee engagement relate to one another in the banking industry. As a result of the pandemic, the study's findings indicate that the perceptions of bank employees have changed, and this has an impact on work ergonomics. According to the findings, banks must create policies and plans to enhance work ergonomics and employee engagement initiatives.

Bhatia and Arora (2021), studied on the effect of job design and ergonomics on employee performance in Indian Automotive Sector. The article analyzed and tested the effect of Job Design and Ergonomics on Employee Performance and the relatedness of Job Design and Ergonomics. The research was conducted in 32 organizations, having managers and supervisors at about 64 categories of designations handling teams of workers in the

manufacturing units, of the automotive sector of India. This quantitative study, based on a sample collected through 5 points Likert scale questionnaires, was analyzed using Confirmatory Factor Analysis (CFA), correlation, and multivariate regression analysis. The results manifested that CFA model and regression analysis described a significant impact of Job Design and Ergonomics on Employee Performance. The correlation outcomes revealed that Job Design and Ergonomics were well connected having p -value of .00, $p < .005$.

Judeh (2021), studied on the effect of work environment on employee engagement: mediating role of ethical decision-making. The purpose of the study was in two-folded: to investigate the effect of work environment on engagement, and to test ethical decision making as a mediator between environment and engagement. Data were collected from a sample of 237 employees from transportation corporations listed on the Amman Stock Exchange (2019) in Jordan. Structural equation modeling was utilized to test the model. Results proposed that engagement was significantly related to work environment and ethical decision-making. Work environment has a greater effect on employee engagement than on ethical decision-making.

Sinno and Ammoun (2019), studied on the impact of ergonomics on employees' productivity in the architectural workplaces. The major objective of the study is to enhance the awareness on ergonomics importance and its impact on increasing employees' productivity specifically among Small and Medium Enterprises (SME's). The study used SPSS program and other tools; the research demonstrated and drew the facts in a statistical and graphical way to show clearly the exact outcomes. The findings of the study showed the strong impact of ergonomics on employees' productivity, and how the absence of one element may influence negatively the employees.

Christy (2019), investigated on ergonomics and employee engagement. The issues that are discussed in the paper comprised the modest contribution that ergonomics as a discipline has made. The relevance of workplace health and ergonomics work relate with that of participation, safety culture and further implications for participatory ergonomics approaches. Being a conceptual paper the research method, thrusts more on secondary data. The secondary data were sourced through various research repositories evolved for the purpose. The research repositories were systematically studied for the specific topic. Being an inter disciplinary topic finding relevant data was an uphill task. The paper concludes by considering the much-needed empirical survey on this issue in almost all industries and prompt action being taken to implement it. Also, the paper gives a glimpse of various approaches for an empirical study, within an organization which is noted as important to the success of ergonomics projects.

2.3.1 Research Gaps

While the concept of ergonomics has been embraced in developed countries of America and Asia, it is however, not reasonably adopted by many organizations in Africa, studies conducted in African countries indicated the lower-level awareness of the concept which necessitate further study on ergonomics practice in African and particularly in Nigeria. Some closed studies that tried to close the knowledge gap was Yattani, Wario, Ombui, and Nyang'au (2024) who studied on the ergonomics of the workplace and employee performance in Kenyan private security companies. The study's findings demonstrated a favourable and substantial correlation between workplace ergonomics and employee performance in Kenyan private security firms. A strong support to this study that the relationship between workplace ergonomics and employees' engagements is vital as it may have a immense consequence on both individuals and businesses.

Similarly, Rahman, Hossain, and Khan (2022) study on employee happiness and ergonomics, specifically focusing on a few Rajshahi Krishi Unnayan Bank offices tried to also fill the knowledge gap. The result of the findings generated from Pearson Correlation Matrix, verified that there is a highly substantial association between ergonomic variables and employee happiness. It further explains that in order to maximise the bank's value and make a profit, employees' happiness is crucial.

Although the findings of the above studies support this study, however, the various researchers focused on the profit-making organizations neglecting non-profit making organizations. This study sought to close the gap and contribute to the existing body of knowledge by examining the relationship between ergonomics and employee engagement in Excellence Community Education Welfare Scheme (ECEWS); one of the foremost non-governmental organizations in Nigeria.

METHODOLOGY

Research Design

This study utilized a descriptive survey research design to determine the relationship that exist between the indices of the two variables. The design would permit the examination of the indices of independent variables in respect for their relationship with the dependent variables. The decision to adopt this design is as a result of the nature of the research problem and the objectives of this study.

Area of the Study

This study aims to measure the relationship that exists between ergonomics and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria. Responses from the target audience of all the branches of Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria will be taken into consideration. Excellence Community Education Welfare Scheme (ECEWS) is one of the foremost and outstanding homegrown non-governmental organization in Akwa Ibom State, Nigeria that promotes the United Nations Sustainable Development Goals through enabling access to qualitative healthcare, education, and economic strengthening opportunities across Nigeria.

Excellence Community Education Welfare Scheme (ECEWS) has its headquarters situated at plot 549, Nwaniba Road, Opposite Atlantic FM Radio Station, Uyo, Akwa Ibom State, Nigeria and a corporate office in Abuja, ECEWS with presence in over 17 states across the South-South, South East, South West, and North Central of Nigeria, with a robust clientele that comprises, the Global Fund to fight against AIDS, TB, and Malaria, the United States Centers for Disease Control and Prevention (US CDC), the World Bank, the United States Agency for International Development (USAID), the United Nations Office of Projects, and the Federal Government of Nigeria.

Since its inception in 2001, the organisation has built a huge network of health and allied professional staff, partners, and collaborators, which has gotten the organisation its solid reputation among its funders and is well observed by competitors and partners comparably.

Population of the Study

The population consist of staff members from each of the department in all branches of Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria. Data from the Human Resource Department of Excellence Community Education Welfare Scheme (ECEWS) which forms the population of study is made up of two hundred

and twenty-seven (227) Staff of Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria.

Table: 3.1: Population of the responders

Staff Distributions across Department in ECEWS in Akwa Ibom State, Nigeria					
SN	Departments	ECEWS-SPEED Project	ECEWS-ACES Project	ECEWS-GC7 Project	Total
1.	Compliance and Risk Management	4	4	1	9
2.	Prevention Care and Treatment (Clinicals)	1	31	0	32
3.	Finance and Operations	5	7	2	14
4.	Prevention Care and Treatment (HTS)	1	2	0	3
5.	MEL and Strategic Information	0	21	0	21
6.	Prevention Care and Treatment (PSandC)	0	57	0	57
7.	Laboratory Services	0	19	0	19
8.	Programs	6	6	0	12
9.	Administrative	3	6	2	11
10.	Human Resources	4	3	1	8
11.	Information Technology Department	2	4	0	6
12.	Procurement	3	3	1	7
13.	Grant and Sub-Contract	3	4	0	7
14.	Communications	2	2	0	4
15.	Logistics	2	12	1	15
16.	Security	1	1	0	2
	Total	37	182	7	227

Source: Data from the Human Resources Department, Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria(2025).

Determination of Sample Size

A Taro Yamani formula was used to determine a sample size of 227 respondent from the staff of Selected branch of Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria.

Formula for calculation;

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

n = Sample size

e = level of significance

N = Population size
227

$$n = \frac{227}{1 + 227(0.05)^2}$$

$$n = \frac{227}{1 + 227(0.0025)}$$

$$n = \frac{227}{1 + (0.825)}$$

$$n = \frac{227}{1.825}$$

$$n = 124$$

A sample size of 124 respondents was used for this study.

Sampling Technique

A proportionate stratified sampling techniques was used to evenly distribute the questionnaire to responders in the different departments in the studyorganization. This is to ensure that each department receives a number of questionnaires that accurately reflects its size within the organization. To achieve an even proportioning of the questionnaire, Bowley's formula for proportionate representation was used which is as follows:

$$nh = \frac{nNH}{N}$$

Where:

n = sample size
NH = population of a strata
N = population

Table 3.2: Sample Distribution Table

SN	Departments	ECEWS-SPEED Project	ECEWS-ACES Project	ECEWS-GC7 Project	Total	Bowley's formula	Sampling
1.	Compliance & Risk Management	4	4	1	9	$\frac{9 \times 124}{227}$	4
2.	Prevention Care & Treatment (Clinicals)	1	31	0	32	$\frac{32 \times 124}{227}$	17
3.	Finance and Operations	5	7	2	14	$\frac{14 \times 124}{227}$	7
4.	Prevention Care and Treatment (HTS)	1	2	0	3	$\frac{3 \times 124}{227}$	1
5.	MEL and Strategic Information	0	21	0	21	$\frac{21 \times 124}{227}$	11
6.	Prevention Care and Treatment (PS&C)	0	57	0	57	$\frac{57 \times 124}{227}$	31
7.	Laboratory Services	0	19	0	19	$\frac{19 \times 124}{227}$	10
8.	Programs	6	6	0	12	$\frac{12 \times 124}{227}$	6
9.	Administrative	3	6	2	11	$\frac{11 \times 124}{227}$	6
10.	Human Resources	4	3	1	8	$\frac{8 \times 124}{227}$	4

11.	Information Technology Department	2	4	0	6	$\frac{6 \times 124}{227}$	3
12.	Procurement	3	3	1	7	$\frac{7 \times 124}{227}$	3
13.	Grant and Sub-Contract	3	4	0	7	$\frac{7 \times 124}{227}$	3
14.	Communications	2	2	0	4	$\frac{4 \times 124}{227}$	2
15.	Logistics	2	12	1	15	$\frac{15 \times 124}{227}$	8
16.	Security	1	1	0	2	$\frac{2 \times 124}{227}$	1
	Total	37	182	7	227		117

Sources of Data

For the purpose of this study, data was obtained from primary and secondary sources. The primary source comprises relevant information to this study that was obtained through the use of questionnaires, personal observation, and oral interviews.

Method of Data Collection

Following the validation and further declaration of the reliability of the questionnaire items, the researcher distributed them to employees in different departments at Excellence Community Education Welfare Scheme (ECEWS) in Akwa Ibom State, Nigeria. Also, the researcher adopted a questionnaire with a 4-point Likert scale which included: Strongly Agreed (SA) (4), Agreed (A) (3), Strongly Disagreed (SD) (2), and Disagreed (D) (1). The questionnaire was arranged in two sections: the first, Section A, captured the demographic information of the respondents, while the second part focused on questions bordering on the subject matter, which is ergonomics and employee engagement. The questions in the questionnaire were close-ended and were also drafted in simple, explicit, and understandable language. The study made use of ordinal data; ordinal data is a statistical type of quantitative data in which variables exist in naturally occurring ordered categories. In a bid to get the precise opinion, the questionnaire was designed in a way that would enable respondents to choose the most appropriate option out of the alternative questions.

Validity of the Research Instrument

A structured questionnaire research instrument was developed to collect responses from the target on the relationship which exists between the indicators of the variables used for the purpose of this study. To ascertain the quality of the instrument's content validity, the instrument was meticulously appraised through test and measurement techniques involving aligning the indicators appraised by the instrument with the research questions developed ascertaining that the instrument weighs what it is intended to measure accurately.

Similarly, to ensure the questionnaire's validity and that it adequately covered the intended research topics, the contents of the questionnaire were reviewed by an experienced supervisor, human resources experts, and credible researchers. The reviewers provided valuable feedback and suggestions, which were carefully considered, and necessary adjustments were made to the questionnaire. This process ensured that the questionnaire was deemed valid and suitable for data collection in the main study.

Reliability of Research Instrument

The reliability of the questionnaires was determined through the Cronbach's alpha correlation technique which would range from 0 to 1. Hence, A higher alpha coefficient values imply that the scales are more reliable and vice versa. Therefore, the rule of thumb is that acceptable alpha should be at least 0.70 or above.

Table 3.3: Questionnaire Reliability Analysis

Scale	Cronbach's Alpha	Number of Items	Reliability
Role Clarity	0.901	4	Reliable
Workforce-training	0.913	4	Reliable
Employee Engagement	0.92	4	Reliable
Total	6.281	28	Reliable

Source: Proposed Survey data, 2025

Administration of the Instrument

Preceding this stage, permission was obtained from the management of the Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria to carry out the research. The instrument which was in Google Form format was administered through the assistant of the Senior Human Resource Officer of the organization to the respondents.

Scoring of Research Instrument

The four - point Likert scale was used in scoring the items in the questionnaire as shown below:

- SA = Strongly Agreed (4 points)
- A = Agree (3 points)
- D = Disagree (2 points)
- SD = Strongly Disagree (1 point)

Method of Data Analysis:

For this research, data collected were screened, arranged, and presented in tables for proper analysis and quantification. The analyses of the returned questionnaires would be done with simple descriptive analysis of frequency distribution, percentage and average. This is because of its simplicity, clarity and relevant to our data. More so, this study utilized Pearson Product Moment Correlation (PPMC) statistical tool through SPSS package of version 21 for the analysis of the organized data collected in order to ascertain the relationship of the dependent and independent variables.

Decision Rule Regarding Testing of the Hypotheses

To accept or reject the null hypotheses, there was comparison between the computer-generated significance level which was either greater than or equal to the assumed stated P-value of 0.05 and 0.01 level of significance. The decision rule following the comparison was thus made as follows: Accept H_0 if $P\text{-value} (0.00) \geq \text{Sig. (2 tailed)}$, which implied no significance, Reject H_0 if $P\text{-value} (0.00) \leq \text{Sig. (2 tailed)}$, which implied there was significance Pearson Product Moment Correlation.

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Presentation of Data:

Table 4.1.1 Copies of Questionnaire Administered and the Response Rate

SN	Departments	Questionnaire distributed	Questionnaire retrieved	Questionnaire Not retrieved	Percentage (%)
1.	Compliance and Risk Management	4	4	0	100.0
2.	Prevention Care and Treatment (Clinicals)	17	16	1	94.0
3.	Finance and Operations	7	7	0	100.0
4.	Prevention Care and Treatment (HTS)	1	1	0	100.0
5.	MEL and Strategic Information	11	9	2	81.0
6.	Prevention Care and Treatment (PSandC)	31	28	3	90.0
7.	Laboratory Services	10	8	2	80.0
8.	Programs	6	5	1	83.0
9.	Administrative	6	6	0	100.0
10.	Human Resources	4	3	1	75.0
11.	Information Technology Department	3	2	1	66.0
12.	Procurement	3	3	0	100.0
13.	Grant and Sub-Contract	3	3	0	100.0
14.	Communications	2	1	1	50.0
15.	Logistics	8	7	1	87.0
16.	Security	1	1	0	100.0
	Total	117	104	13	88.0

Source: Compiled from questionnaire response, (2025)

A total of 117 copies of questionnaire were accurately administered, 104 were returned which constitutes 88.0% of the total copies of questionnaire and were found relevant for use. Despite efforts by the researcher to ensure adequate and correct completion of the questionnaire by self-administering, 13 copies of questionnaire were returned incompletely filled, hence were discarded.

Table 4.1.2: Sex Distribution of the respondent

Male	Frequency	Percent
Female	62	60%
	42	40%
Total	104	100%

Source: Field survey, (2025)

From table 4.1.2 showed that out of the 104 respondents, 62 representing 60% were male and 42 representing 40% were female.

Table 4.1.3 Age distribution of the respondents

	Frequency	percentage
20-25years	19	18%
26-30years	33	31%
31-35years	20	19%
36- 40	10	9%
41-45	12	11%
46 years and above	10	9%
Total	104	100%

Source: Field survey, (2025)

With respect to age distribution, 19 respondents representing 18% were between 20 – 25 years of age, 33 representing 31% respondents were between 26-30 years of age. Those between 31 – 35 years were 20 representing 19%, those between 36 – 40 were 10 representing 9%, 41 – 45 were 12 representing 11% and those above 46 years and above were 10 representing 9% of the respondents.

Table 4.1.4 Respondents' Highest Educational Level

	Frequency	percentage
NCE/OND	15	14%
B.Sc./B. A/B.Eng. MBBS/HND/LLB	60	57%
M.Sc./MBA/LLM/MMS	22	21%
Ph.D.	7	6%
Total	104	100%

Source: Field survey, (2025)

The table 4.1.4 shows that 15 representing 14% of the respondents were holders of NCE/ OND, 60 representing 57% were B.Sc./B.A./B.Eng./MBBS/HNDholders, 22 representing 21% were M.Sc./MBA/LLM/MMS holders, and 7 representing were 6% was Ph.D. holders.

Table 4.1.5 Respondents'Marital Status

	Frequency	Percentage
Single	34	32%
Married	68	65%
Separated	-	-
Widowed	2	3%
Divorced	-	-
Total	104	100%

Source: Field survey, (2025).

The statistics on table 4.1.5 shows that 34 representing 32% were single, 68 representing 65% were married, while 2 representing 3% were widowed.

Table 4.1.6 Respondents' Working Experience

Years of Work experience	Frequency	Percentage
1 – 5	45	43%
6 – 10	30	28%
11 -15	20	19%
16 and above	9	8%
Total	104	100%

Source: Fieldwork, (2025)

The table 4.1.6 shows that 45 representing 43% were between 1 – 5 years, 30 representing 28% were 6-10, 20 representing 19% were 11-15 while 9 representing 8% were 16 years and above.

Table 4.1.7: Percentage analysis of responses on role clarity

Role Clarity	Extent of Agreement				
	SA	A	D	SD	Total
The processes and procedures required for my role are clearly defined.	46 (44%)	24 (23 %)	20 (19%)	14 (13%)	104 (100%)
I am aware of how my role interacts with other roles within the organization.	50 (48%)	23 (22%)	19 (18%)	12 (11%)	104 (100%)
I receive sufficient guidance on how to perform my duties.	38 (36%)	45 (43%)	16 (15%)	5 (4%)	104 (100%)
There is a clear distinction between my responsibilities and those of other team members.	32 (30%)	46 (44%)	20 (19%)	6 (5%)	104 (100%)

Source: Field survey (2025)

Table 4.1.8 showed the frequency of responses and their percentages on the communication competency dimension. Of 104 total respondents, the first question shows the following breakdown: 46 (44%) strongly agreed, 24 (23%) agreed, 20 (19%) disagreed, and 14 (13%) strongly disagreed. For the second question, 50 respondents (48%) strongly agreed, 23 (22%) agreed, 19 (18%) strongly disagreed, and 12 (11%) disagreed.

Answers to the third question indicate that 38 respondents (36%) strongly agreed, 45 (43%) agreed, 16 (15%) strongly disagreed, and 5 (4%) disagreed. Finally, for the fourth question, 32 respondents (30%) strongly agreed, 46 (44%) agreed, 20 (19%) strongly disagreed, and 6 (5%) disagreed. Moreso, from the analysis it is concluded that there is positive significant relationship between role clarity and employees' engagement.

Table 4.1.8 Percentage analysis of Responses on Workforce Training

Workforce Training	Extent of Agreement				
	SA	A	D	SD	Total
My company's workforce training programs are essential for our continued success and competitiveness in the market.	34 (32%)	44 (42%)	15 (14%)	11 (10%)	104 (100%)
The content of the training programs I've participated in has been directly relevant and highly applicable to my daily work responsibilities.	53 (50%)	30 (28%)	8 (7%)	13 (12%)	104 (100%)
My organization demonstrates a strong commitment to providing high-quality and continuous workforce training for all employees.	46 (44%)	36 (34%)	15 (14%)	7 (6%)	104 (100%)
My organization is proactive in identifying future training needs to ensure our workforce remains highly skilled.	37 (35%)	41 (39%)	15 (14%)	11 (10%)	104 (36%)

Source: Field survey (2025)

Table 4.1.8 showed the frequency of responses and their percentages on the stress management dimension. Of 104 total respondents, the first question shows the following breakdown: 34 (32%) strongly agreed, 44 (42%) agreed, 15 (14%) disagreed, and 11 (10%) strongly disagreed. For the second question, 53 respondents (50%) strongly agreed, 30 (28%) agreed, 8 (7%) strongly disagreed, and 13 (12%) disagreed.

Answers to the third question indicate that 46 respondents (44%) strongly agreed, 36 (34%) agreed, 15 (14%) strongly disagreed, and 7 (6%) disagreed. Finally, for the fourth question, 37 respondents (35%) strongly agreed, 41 (39%) agreed, 15 (14%) strongly disagreed, and 11 (10%) disagreed. From the analysis it is concluded that significant relationship between effective workforce training and employees' engagement.

4.2.1 Test of Hypothesis

Tables 4.2.1 Pearson Product Moment Correlations Analysis

		Role Clarity	Workforce-Training	Employees' Engagement
Role clarity	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	104		
Workforce-Training	Pearson Correlation	.899**	1	
	Sig. (2-tailed)	.000		
	N	104	104	
Employees' Engagement	Pearson Correlation	.651**	.769**	1
	Sig. (2-tailed)	.000	.000	
	N	104	104	104

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Analysis Data, (2025)

There is no significant relationship between role clarity and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

From the analysis, the correlation coefficient (R) for the second hypothesis (H_{02}) was $R_{x_2} = 0.651$, suggesting a strong positive correlation between role clarity and employees' engagement. The result was statistically significant ($R_{x_2} = 0.651^{**}$; $n = 104$; $p = 0.000$). Based on this, it is safe to assume that role clarity with the employee in the organization will influence employees' engagement.

Since the p-value is less than 0.05 ($p = 0.000 < 0.05$), the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, there is a significant relationship between role clarity and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

There is no significant relationship between workforce-training and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

From the analysis, the correlation coefficient (R) for the sixth hypothesis (H_{06}) was $R_{x_6} = 0.769$, suggesting a strong positive correlation between workforce-training (remote work) and employees' engagement. The result was statistically significant ($R_{x_6} = 0.769^{**}$; $n = 104$; $p = 0.000$). Based on this, it is safe to assume that workforce-training influence employee engagement.

Since the p-value is less than 0.05 ($p = 0.000 < 0.05$), the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, there is significant relationship between workforce-training and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

Discussion of the Findings

The study showed a significant positive relationship between each of the two (2) dimensions of ergonomics (role clarity and workforce training) and employees' engagement in Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

The result of analysis for the first objective shows that there is relationship between role clarity and employees' engagement with a correlation coefficient of $R_{x_2} = 0.651$. The correlation coefficient of $R_{x_2} = 0.651$ is very high, indicating a strong positive linear association with the dependent and independent variable. Significantly, the analysis confirms a strong positive relationship between role clarity and employees' engagement within ECEWS. This means that employees have a clear understanding of their roles, responsibilities, expectations, and how their work contributes to the overall organizational goals are more likely to be engaged in their work through specific descriptions of their job role.

This suggests that at ECEWS, role clarity is a powerful predictor of employees' engagement. Generally, when employees have a clear understanding of their roles, it significantly contributes to their level of engagement. Conversely, a lack of role clarity is likely to negatively impact employee engagement. The result aligns with previous studies done by Towsen, Stander, and Van Der Vaart, (2020) which posited that when employees have a clear understanding of their roles and responsibilities, they may be more likely to perceive co-worker support as a valuable resource that enhances their work engagement, reinforcing the social exchange process within the organization. Also, in a study conducted by Choudhary and Jain (2024) on systematic literature review to explore the antecedents of employee engagement among remote workers analyzes various factors influencing employee engagement in remote work settings, including role clarity. The study identifies role clarity as a crucial antecedent of employee engagement, particularly in the context of remote work where clear communication and expectations are paramount.

On the other hand, Stacey, Mowles and Uhl-Bien (2000) argued that role clarity is highly uncertain in a dynamic work environment. Adding that overly rigid role definitions can hinder an organization's ability to adapt and innovate. They suggest that some level of ambiguity or "disequilibrium" can be necessary for emergent solutions and self-organization. While they don't say "role clarity is bad," they imply that a prescriptive, static approach to roles can be counterproductive. Their work often dates back a bit, but the implications for role clarity are highly relevant in recent discussions of agile and adaptive organizations."

By implication, the findings suggest that ECEWS should recognize the significant impact of role clarity on employee engagement and make it a priority to ensure that all employees have a clear understanding of their roles and responsibilities. This can be achieved by adopting several strategies to enhance role clarity across the organization such as; well-defined job descriptions, clear communication of expectations, regular feedback and performance reviews, onboarding and training programs, open communication channels and regular review of organizational structure.

The result of analysis for objective second indicates that workforce training significantly relative to employee engagement with a correlation coefficient of $R_{x_6} = 0.769$. A correlation value of $R_{x_6} = 0.769$ indicates a strong positive association between the dependent and independent variables, indicating that employee engagement at ECEWS is significantly impacted by the amount and calibre of training offered. This result is consistent with research by Bhakuni and Saxena (2023) that found employee engagement and business organisation growth are significantly influenced by employee training and development.

Additionally, Hassett's (2022) findings demonstrated a significant relationship between increased job engagement rates among federal employees and access to training and development opportunities. Putting into practice various creative tactics developed by various organisations raises performance levels and leads to increased profitability and productivity.

On the other hand, Salas, Tannenbaum, Kraiger and Smith-Jentsch, (2012) argued that it is most inconsistent if training is not systematic, with concentration to the needs-based, it may not yield the intended results. However, the findings from this study strongly validate ECEWS's current investment in workforce training. It suggests that their training initiatives are not just a cost, but a critical driver of employee engagement. By implication, training is a tenet that can foster a culture of continuous learning and development among employees, which translate their positive attitudes into better service delivery on the goals and objectives of ECEWS's clients and organizational reputation.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

This study investigates the relationship between ergonomics and employees' engagement in NGOs, a study of Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria using two ergonomics dimensions namely; role clarity and workforce training and employee engagement was held constant. Two null hypotheses were formulated and tested using the Pearson Product Moment Correlation (PPMC). All the hypotheses were tested at 0.05 level of significance. The result of the two hypotheses tested were as follows:

The result of the first hypothesis demonstrates that there is significant relationship between role clarity and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria with a correlation coefficient of $R_{x_2} = 0.651$.

The result of the second hypothesis demonstrates that there is significant relationship between workforce-training and employees' engagement at Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria with a correlation coefficient of $R_{x_6} = 0.769$.

Conclusion

It is therefore concluded that co-worker's support, role clarity, office setting and telework (remote work), reward system and workforce training are relational dimensions that can influence employees' engagement among in Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria. The empirical results of the study clearly underscored that there was a significant relation between:

- i. Clarity and employees' engagement in Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.
- ii. Workforce-training and employees' engagement in Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

Recommendations

- i. It was recommended that NGOs should ensure there is role clarity as it is essential because these organizations often operate in dynamic, resource-constrained environments. Clear roles help ensure efficiency, accountability, and overall success and when each team member understands their responsibilities, tasks are completed faster and with fewer errors, allowing the organization to maximize its impact.

- ii. The study recommended the need to prioritize and invest in comprehensive workforce training programs meaning that organizations should make workforce training a strategic priority and allocate adequate financial and human resources to design, implement, and evaluate comprehensive training programs across all levels and departments. To ensuring an effective workforce training, there is need to conduct thorough training needs assessments to facilitate relevance and effectiveness of training through identification of skill gaps, knowledge deficiencies, and developmental areas required for employees to perform their roles effectively and contribute to the organization's goals. In essence, organizations should provide a variety of training methods and content that cater to different learning styles and organizational needs such as:
 - a. **On-the-job training:** Providing practical skills and knowledge within the work environment.
 - b. **Internal workshops and seminars:** Utilizing in-house expertise to deliver targeted training.
 - c. **External training programs and conferences:** Offering opportunities for employees to learn from industry experts and gain exposure to best practices.
 - d. **E-learning modules and online resources:** Providing flexible and accessible learning options.
 - e. **Mentoring and coaching programs:** Facilitating personalized development and guidance.

Contribution to Knowledge

This study provides related literatures to the existing knowledge in management sciences field. Its findings provide empirical evidence of significant positive relationship between ergonomics and employees' engagement in Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeriawhich earlier studies had failed to emphasize. This study has established that all the ergonomics dimensions considered herein do individually have a significant influenceon employees' engagement in Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State, Nigeria.

Suggestion for Further Studies

The two ergonomics dimensions (role clarity and workforce training) covered in this study could explain their relationship on employee engagement. Further studies should be conducted on other dimensions. Also, similar studies should be carried out in other parts of the companies and organization that may not necessarily be NGOs and in other service sectors such as, manufacturing, hospitality, healthcare and even transportation to enable for generalization.

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APPENDIX I



AKWA STATE UNIVERSITY
P.M.B, 1167, UYO, AKWA IBOM STATE, NIGERIA

MAIN CAMPUS
IKOT AKPADEN, MKPAT ENIN LGA

OBIO AKPA CAMPUS
OBIO AKPA, ORUK ANAM LGA

DEPARTMENT OF BUSINESS ADMINISTRATION
FACULTY OF MANAGEMENT SCIENCE

TO WHOM IT MAY CONCERN (LETTER OF RECOMMENDATION)

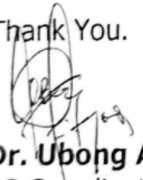
Sir/Madam

The bearer **Effiong, Micah Bernard** is an M.Sc. student in the Department of Business Administration, Faculty of Management Sciences, Akwa Ibom State University, Obio Akpa Campus with Registration Number AK23/MGT/BUS/M.Sc./007.

He is currently carrying out a research on **Ergonomics and Employee Engagement. A study of Excellence Community Education Welfare Scheme (ECEWS), Akwa Ibom State.**

Please kindly give any necessary assistance needed for the research.

Thank You.


Dr. Ubong Akpaetor
PG Coordinator

APPENDIX II

QUESTIONNAIRE

Please tick (✓) the appropriate options.

SECTION A

THE DEMOGRAPHIC OF RESPONDENT

1. **Sex:** Male ☐

Female ☐

2. **Age:** 25-30 years ☐

31-35 years ☐

36-40 years ☐

Above 40 years ☐

3. Educational Qualification:

NCE/OND ☐

B.Sc/B.A/HND/B.Eng. MBBS/LLB ☐

M.Sc./MBA/LLM ☐

Ph.D ☐

4. Work Experience:

1- 5 years ☐

6- 10 years ☐

11 – 15 years ☐

16 and above ☐

5. Department in ECEWS:

Compliance and Risk Management ☐

Prevention Care and Treatment (Clinicals) ☐

Finance and Operations ☐

Prevention Care and Treatment (HTS) ☐

MEL and Strategic Information ☐

Prevention Care and Treatment (PSandC) ☐

Laboratory Services ☐

Programs

Administrative	☐
Human Resources	☐
Information Technology Department	☐
Procurement	☐
Grant and Sub-Contract	☐
Communications	☐
Logistics	☐
Security	☐

SECTION B

Please respond to the following research related questions by ticking (✓) in the appropriate box for each question. Select only one response per question.

SA = Strongly Agree, A = Agree, D = Disagree; SD =Strongly Disagree

S/N	ITEM STATEMENT	SA	A	U	D	SD
A	Co-Worker's Support					
1.	My co-workers are supportive when I face challenges at work.					
2.	I feel comfortable discussing work-related stress with my colleagues.					
3.	My team members listen to my concerns and provide encouragement					
4.	My colleagues readily share knowledge and skills to help me succeed.					
B	ROLE CLARITY	SA	A	U	D	SD
5.	The processes and procedures required for my role are clearly defined.					
6.	I am aware of how my role interacts with other roles within the organization.					
7.	I receive sufficient guidance on how to perform my duties.					
8.	There is a clear distinction between my responsibilities and those of other team members.					
C	OFFICE SETTING	SA	A	U	D	SD
9.	The office is equipped with necessary tools and technology to perform my job effectively.					
10.	My office chair provides adequate lumbar support, allowing me to maintain a comfortable posture throughout the workday.					
11.	My workstation provides adequate space layout that allows for comfortable movement-access to frequently used items, promoting good posture.					

12.	The overall lighting and noise levels in my office environment are conducive to focused work and do not negatively impact my physical well-being.					
D	TELEWORK (REMOTE WORK)	SA	A	U	D	SD
13	Communication with my colleagues is effective when working remotely.					
14	I have sufficient virtual meetings and check-ins to stay connected with my team.					
15	I feel included in team discussions even when working remotely.					
16	Collaboration tools (e.g., Zoom, Teams, Slack) are effective in supporting teamwork.					
E	REWARD SYSTEM	SA	A	U	D	SD
17	The reward and recognition programs are perceived as fair and transparent, reducing feelings of stress and inequity.					
18	The criteria for earning rewards are clear and attainable, preventing feelings of being overwhelmed or set up for failure.					
19	The reward system motivates me to perform better on my job.					
20	The organization's reward system aligns with my expectations.					
F	WORKFORCE TRAINING	SA	A	U	D	SD
21	My company's workforce training programs are essential for our continued success and competitiveness in the market.					
22	The content of the training programs I've participated in has been directly relevant and highly applicable to my daily work responsibilities.					
23	My organization demonstrates a strong commitment to providing high-quality and continuous workforce training for all employees.					
24	My organization is proactive in identifying future training needs to ensure our workforce remains highly skilled.					
G	EMPLOYEE ENGAGEMENT	SA	A	U	D	SD
25	My contributions and hard work are consistently recognized and appreciated by my manager and the organization.					
26	My supervisor provides the support and guidance I need to succeed.					
27	My work provides a strong sense of belonging within my team.					
28	There is open and transparent communication within the organization.					