EFFECT OF PERFORMANCE APPRAISAL ON EMPLOYEES' PRODUCTIVITY IN SUBSIDIARIES OF NIGERIAN NATIONAL PETROLEUM COMPANY LIMITED (NNPCL)

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Abstract

This study examined the effect of performance appraisal on employees' productivity in subsidiaries of Nigerian National Petroleum Company Limited (NNPCL). Specifically, the study assessed the effect of feedback mechanism and reward systems on employee productivity. Survey research design was adopted; primary data was collected with the aids of a questionnaire from the sample size of three hundred and seventy-one (371) employees from the five various subsidiaries of NNPCL. The collected data was analyzed using Partial Least Squares Structural Equation Modelling; the findings showed that both feedback mechanism and reward systems have a significant positive effect on employees' productivity. Thus, the study recommended that the subsidiaries of Nigerian National Petroleum Company Limited (NNPCL) should foster a culture of peer-to-peer feedback. This can enhance team collaboration and create a supportive work environment where employees learn from one another. They should also provide training for managers on how to effectively use the reward system to boost team morale and productivity.

Keywords: Feedback, Employee productivity, NNPCL, Reward system, Performance appraisal,

INTRODUCTION

Across the globe, organizations recognize employees as their most valuable assets as their contributions are fundamental to achieving organizational goals and driving overall success. Employees are the driving force behind an entity's operations, productivity, and ability to achieve its goals. It is widely recognized that an organization's success is highly dependent on the knowledge, skills, and commitment of its workforce (Rana & Malik, 2017). This principle holds true across various industries and organizational settings, from small businesses to large multinational corporations. Employee productivity is vital to an organization due to its significant factor in driving performance, competitiveness, and profitability.

Furthermore, employee productivity is essential for organizational success, as it directly affects the quality and efficiency of work as such performance appraisals plays an important role in enhancing productivity by providing feedback, setting clear expectations, and motivating employees. These appraisals allow managers to evaluate an employee's performance over a specific period, offering insights into strengths and areas for improvement (Akinbode & Olaoye, 2020). By aligning individual goals with organizational objectives, performance appraisals foster a culture of continuous improvement, ultimately boosting employee effectiveness and productivity (Nnamani, 2022). For instance, in a retail company in Lagos, the introduction of performance appraisals that offered clear, actionable feedback on sales staff's strengths and areas for improvement led to a 20% increase in sales productivity (Ogunleye, 2021). In another case, a Kenyan financial institution used regular performance appraisals to align individual employee goals with organizational objectives, which resulted in a 15% increase in task completion rates (Wambui & Kariuki, 2022).

Performance appraisal systems have evolved over time, moving away from traditional methods such as rating scales and checklists towards more comprehensive and dynamic approaches that incorporate dimensions like feedback mechanism and reward system. These modern systems focus not only on evaluating past performance but also on fostering employee growth and future performance improvement that enhanced efficiency (Kaplan & Haenlein, 2019).

Feedback mechanisms play a vital role in enhancing employee productivity when applied effectively in real workplace settings. For instance, at Nestlé Nigeria, regular one-on-one feedback sessions enabled sales representatives to identify and address weak client engagement strategies. As a result, regional sales improved by 12% within two quarters (Adeniyi, 2022). Similarly, in a Kenyan telecom company, quarterly performance reviews allowed employees to align their individual KPIs with departmental objectives,

leading to a 20% increase in task efficiency (Mwangi & Wanjiku, 2021). However, feedback that is poorly delivered can harm employee morale. A manufacturing firm in Ghana experienced high turnover and a decline in job satisfaction after management used harsh public criticism as a feedback approach (Boateng, 2023). On a positive note, a logistics company in South Africa implemented a 360-degree feedback system that improved team collaboration and reduced inter-departmental conflict by 30% (Nkosi & Dlamini, 2022).

Reward systems are critical in shaping employee behavior which can enhance productivity. In practical terms, MTN Nigeria recorded a 17% increase in monthly sales after implementing performance-based bonuses for frontline staff, illustrating how monetary incentives can drive output (Okeke, 2022). Similarly, a Ghanaian bank introduced an "Employee of the Month" recognition program, which significantly boosted employee morale and reduced absenteeism by 25% (Mensah & Agyemang, 2021). In Kenya, a leading ICT firm adopted non-monetary rewards such as flexible work arrangements and professional development opportunities, resulting in a 30% reduction in staff turnover (Kamau & Wambua, 2023). However, poorly structured reward systems can have adverse effects. A manufacturing company in South Africa faced employee dissatisfaction and internal conflict due to vague and inconsistent reward criteria (Mokoena, 2020).

Despite widespread implementation of performance appraisal systems in the NNPCL, there is growing concern on observed issues such as untimely and infrequent feedback from management staff to employees, biased and subjective evaluation process, misalignment of appraisal and reward system (Ibrahim & Dada, 2021). If performance appraisal is not conducted, employees won't receive structured feedback on their performance, making it difficult for them to understand their strengths and areas for improvement, also without regular evaluations, employees may be unsure about what is expected of them, leading to misaligned priorities and efforts. The absence of formal recognition for good work can decrease motivation and engagement translating to low employees' productivity (Sikiria et al., 2024).

Theories support the assertion that employee's productivity can be boosted by performance appraisal theory such as expectancy theory Proposed by Vroom (1964) this theory suggests that employees are motivated when they believe their efforts will lead to desired outcomes. Performance appraisals can clarify how performance impacts rewards, thereby enhancing motivation and productivity. Also, Goal-Setting theory proposed by Locke and Latham (1968) this theory emphasizes that performance appraisals can help align individual employee goals with the organization's strategic objectives, providing a clear framework for employees to direct their efforts and improve their productivity. This study investigated if the assertion is true in the Nigerian National Petroleum Company Limited (NNPCL).

Several studies were conducted on the effect of performance appraisal on employee's productivity, however, some focused on other countries such as Madhavi (2022) in India, Adolfsson et al. (2023) in Switzerland. Others focused on different organization like Unmeshi and Vaishali (2021) focused on Banks, Obiekwe and Ejo-Orusa (2019) on tertiary institution while Gopal (2021) focused on hospitals and as such their findings cannot be directly applicable to NNPCL due to organizational differences, Thus, this study bridged this gap by focusing on Nigeria and specifically the Nigerian National Petroleum Company Limited (NNPCL) to check if the findings from findings from other organizations and studies will also be consistent in the NNPCL.

The main objective of the study is to examine effect of performance appraisal on employees' productivity in subsidiaries of Nigerian National Petroleum Company Limited (NNPCL). The specific objectives include

- i. to assess the effect of feedback on employees' productivity in subsidiaries of Nigerian National Petroleum Company Limited.
- ii. to investigate the effect of reward system on employees' productivity in subsidiaries of Nigerian National Petroleum Company Limited.

LITERATURE REVIEW

Performance Appraisal

Performance appraisal is a systematic process used by organizations to assess and evaluate the job performance of employees. It plays a crucial role in providing feedback, identifying strengths and areas for improvement, making decisions regarding promotions and rewards, and facilitating employee development (Stanikzai et al., 2024). Performance appraisal (PA) is concerned with identifying, measuring, influencing and developing job performance of employees in the organization in relation to the set norms and standards for a particular period of time in order to achieve various purposes (Ochidi et al., 2019). Ijeuru et al. (2024) viewed performance appraisal as the process for establishment of employees' performance goals, and tracking the attainment of these goals based on employees' strengths and weaknesses in order to develop specific actionable career development plans and motivate employees towards higher performance outputs. Mulenga et al. (2024) argued that performance appraisal is seen to be the assessment made on a job of worker's production in a specified period of time. The purpose for performance appraisal is to help enhance productivity in organizations.

Several authors have decomposed performance appraisal into different components, but they haven't always done so in the same way, Eliphas et al. (2017) decomposed performance appraisal into recognition, feedback, and training & development, emphasizing their roles in productivity. Aguinis (2017) segmented performance appraisal as regular feedback, offering career development and training. Dessler (2018) decomposed it as reward and promotion system, and feedback mechanism. Sahoo and Mishra (2015) broke it down as role definition, communication, feedback and goal setting. According to Daoanis (2022) performance appraisal was decomposed as teamwork, feedback and reward system. To Armstrong (2019) it was decomposed as feedback, growth and career development. However, Kaplan and Haenlein (2019) decomposed it as continuous feedback, reward system, and communication. This study however, focused on the feedback and reward system since they dominate the literary discourse.

Feedback

According to Ezenwaka and Okoro (2020) Feedback is the extent to which the performance appraisal system provides the individual with direct and clear information about the effectiveness of his or her performance. Feedback is a helpful information or constructive criticism that is given to someone, on what can be done to improve a performance or a product. Rubak (2023) defined feedback as specific information about the difference between a trainee's observed performance and a given standard with the target of achieving improvement in performance of the trainee. Feedback is the information an employee receives from the reporting managers, supervisors and peers concerning a rater's evaluative judgment of their performance and the way information is communicated (Odhiambo, 2020). According to Mayfield and Mayfield (2022) performance feedback described assessing and managing the work that requires to be carried out and giving opportunities for professional development and growth. It includes planning, check in and review.

Reward System

Reward systems are policies that show clearly the guidelines to managing rewards. They provide financial and non-financial rewards and processes involved in evaluating the relative size and worth of jobs and placing the right staff on the right job based on individual performance. These policies ensure that staff are rewarded fairly, equitably and consistently with their input in the organization (Nweze, 2022). According to Obiaga and Johnson (2021) reward system is the process of providing incentives and compensation whether extrinsic or intrinsic (financial or non-financial) which an employee desire that the organization is prepare to offer in exchange for the employee's contribution to the organization. A reward system expresses an establishment's general arrangement for contributing their best efforts to generate innovation ideas that lead to better business functionality and further improvise company performance both financially and non-financially (Kampororo et al., 2021). Reward system is concerned with the selection of the types of rewards to be used by organization. It consists of the interrelated processes and Practices that combine to ensure that reward management is carried out effectively to the benefit of the organization and the people who work there (Pongah, 2016).

Employee Productivity

Employee productivity is the evaluation of the value produced by each employee over a certain amount of time; it is defined as an assessment of the value generated by an individual employee within a specific time (Mallick, 2020). Amhana and Thomas (2024) asserted that employee productivity is often a measure of the level of efficiency of an employee in his ability to convert his time and effort into quality work. In other words, it is a measure of how much an employee can get done in each amount of time with a given number of resources for the task. According to Zistemo (2024) employee productivity can also be seen as the amount of work (or output) produced by an employee in a specific period. Employee productivity is a metric that is calculated based on the amount of output on a project versus the amount of time it takes. As stated by Personio (2024) employee productivity refers to the ability of employees to effectively and efficiently complete their job tasks to achieve the goals of the company.

Feedback and Employee Productivity

Uzochukwu et al. (2024) examined the impact of feedback on employee productivity in Nigerian federal regulatory agencies, with emphasis on the National Agency for Food and Drug Administration and Control (NAFDAC). The population is the entire permanent staff of NAFDAC as supplied by their personnel department as of 5th November 2023 is 3,673 representing all levels of management staff. For this study, the Taro Yamane (1967) formula is used to determine the statistically reliable sample size for the population of 3673. A descriptive survey research design was adopted, with primary data collected from staff of NAFDAC using a five-point Likert scale model questionnaire. Correlation and regression techniques were used to analyze the data which was collected through non-probability quota sampling. The result revealed that feedback is statistically significant and positively influenced employees' productivity in NAFDAC. The study's sectoral focus may limit its applicability to NNPC LTD. Therefore, the necessity of this new study tailored to the Nigerian oil and gas industry.

Wanjiru and Odenyo (2024) carried out a study in Kenya on the effect of feedback on employee performance at Eldoret Water and Sanitation Company. The study was guided by goal setting, management by objective and expectancy theories. This study's target population was 405 workers. The sample size of the study was 121 workers who were picked using random sampling technique. The gathered data was analyzed using descriptive statistics of mean, standard deviation, and percentages as well as inferential statistics which included multiple linear regression. Tables were used to present the analyzed data. The study found that feedback had significant positive relationship with employee performance. Unlike the previous study's use of multiple linear regression, this one employed PLS-SEM to analysis the data collected.

Mwita et al. (2024) examined the influence of feedback on performance of Savings and Credit Cooperative Societies (SACCOS) in Tanzania. Resource based view theory was used in the study. Quantitative approach was employed. Data was collected by using questionnaires from 317 HR managers or their equivalent (SACCOS Managers). Descriptive and correlation statistics were used for data analysis. Through correlation analysis, it was found that performance appraisal tools, performance standards, evaluation process and workforce diversity positively correlated with SACCOS performance. Further, hypothesis testing revealed that feedback had significant positive relationship with SACCOS performance. This study was conducted in Tanzania within a different sector, which means that its findings may not be directly applicable or effective for making decisions in the study area of Nigeria.

Reward System and Employee Productivity

Adam (2024) researched on the effect of reward system on employee productivity of hospitality services in Ghana. This is an inductive study based on a non-probability sampling technique. A quota sampling of 50 AH Hotel workers responded to the questionnaire. Quota sampling is a non-probability sampling method that relies on the non-random selection or convenience of a predetermined number or proportion of units. The research designed closed-ended and open questions in the interview questionnaire (as a data collection instrument of a qualitative nature) which the respondents gave their feedback. The research findings show reward system has a significant positive effect on employee

productivity. Using a sample size of only 50 hotels in a study of this kind is quite limited, and consequently, it may impede the study's potential for generalizability.

Reddy (2024) analyzed the impact of rewards on the employee productivity by considering the case of Tesco in UK. The research adapted both qualitative and quantitative approach of analyzing the results of the study. The quantitative data was collected through primary survey questionnaire that were distributed among 44 employees of Tesco and another interview survey that was conducted with 5 managers of Tesco. SPSS software was used to analyze the collected data in which frequency analysis, correlation analysis and regression analysis were performed. In addition, the technique of manual thematic analysis was used to interpret the information that was gathered through the interview survey. According to the statistical findings, rewards system has positive and significant effect on employee productivity. However, the study faced a setback by employing a restricted sample size, which could hinder the ability to draw generalizations from the study's findings.

Mgbemena et al. (2024) studied the effect of reward system and employee performance among selected commercial banks in Asaba, Delta State. The study adopts the descriptive survey method of research design. Data were generated through primary and secondary sources. The method for data collection was questionnaire which was administered randomly among the staff of the selected commercial banks. The population of the study was one thousand and seventy-three (1073). The sample size of the study was two hundred and ninety-one (291) and the target staff was both the top and middle level. The hypotheses were tested using Analysis of Variance methods at 0.05% level of significance. The findings of the study revealed that reward system has significant positive effect on employee performance in selected commercial bank in Asaba, Delta state. Given its focus on commercial banks, the previous study may not be directly applicable to NNPC LTD. This research addresses this limitation.

Goal Setting Theory

This study is anchored on goal setting theory as postulated by Edwin Locke (1979), it stated that individuals could work harder and achieve more when set targets are before them in workplaces. This theory states that goals setting are essentially linked to task performance. It also states that specific and challenging goals along with appropriate feedback contribute to higher and better task performance. Goal setting involves the development of an action plan destined to motivate and guide a person or group towards a goal. Lathan and Locke (1979) further developed goal-setting theory by highlighting four mechanisms that links goals with performance outcomes to include ability to direct attention to priorities, stimulate effort, challenge people to bring their knowledge and skills to bear and increase their chance of success, and the more challenging the goals the more people will draw on their full repertoire of skills.

Goal setting theory agrees on the standards for measuring performance after setting objectives. This theory further agree that employees perform better with a well define and challenging goal than with vague goals. The Goal setting theory has an assumption that there exists a relationship between the definition of specific and measurable goals and employee performance (Meyer, 2014). When managers and employees know what they are looking up to, they are motivated to put in more effort thereby improving performance (Locke & Lathan, 2002). Meyer (2014) maintained that goal setting theory is individually task performance centered rather than organizational. It's also further argued that individual task performance cumulatively builds up to organizational task performance in the long run. Therefore, goal setting theory is fundamental and strategic in addressing different questions about performance appraisal in organizations and therefore has a link with this research work; effect of performance appraisal practices on employees' productivity in NNPC Ltd.

METHODOLOGY

This study employed the survey research design; the design involves studying a sample of the population once at a point in time for the purpose of drawing inference that will be generalized to the entire population of the study. The population of the study consists of two thousand one hundred and sixty-seven (2,167) employees under the five (5) subsidiaries of Nigerian National Petroleum Company

Limited namely: NNPC Exploration & Production Ltd. (NEPL), NNPC Upstream Investment Management Services (NUIMS), NNPC Engineering & Technical Company Ltd. (NETCO), NNPC Trading Limited and NNPC Enserv Limited. The data of the staff were from the Human Resource Department of the various subsidiaries, the distribution of the staff across the various subsidiaries is displayed in Table 1:

Table 1: Distribution of Staff Population of Various NNPC LTD Subsidiaries

| S/N | NNPC LTD Subsidiaries | Staff Strength |
|-----|--|----------------|
| 1 | NNPC Exploration & Production Ltd. (NEPL) | 1,113 |
| 2 | NNPC Upstream Investment Management Services (NUIMS) | 609 |
| 3 | NNPC Engineering & Technical Company Ltd. (NETCO) | 115 |
| 4 | NNPC Trading Limited | 144 |
| 5 | NNPC Enserv Limited | 186 |
| | TOTAL | 2,167 |

Source: HR Department of the various NNPC LTD Subsidiaries (2025)

The minimum sample size for this study were ascertained using the formula proposed by Taro Yamane for statistically attaining sample size from a given population (Yamane, 1967), which is 2,167 for this study. Calculations were made at 5% significance level as follows:

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

Where:, n is sample size, N is the population size, e is the margin of error (5%, which is 0.05). Substituting in to the formula:

$$n = \frac{2167}{1 + 2167 (0.05)^2}$$
$$n = \frac{2167}{6.4175} = 337.72$$

Rounding to the nearest whole number, the minimum sample size for the study was three hundred and thirty-eight (338). For the purpose of anticipated non-response, bias and non-return of questionnaire, the sample size were increased by 10% which were added to the minimum sample size given by the formula making it three hundred and seventy-one (371) as the sample size that was used this study. This takes care of other unavoidable errors such as incorrect filling and failure of some respondents to return the questionnaire according to (Israel, 2013).

Table 2: Sample Distribution according to NNPC Subsidiaries

| S/N | NNPC LTD Subsidiaries | Staff Strength | Sample |
|-----|--|----------------|--|
| 1 | NNPC Exploration & Production Ltd. (NEPL) | 1,113 | $\frac{1,113}{2167}$ × 371 = 191 |
| 2 | NNPC Upstream Investment Management Services (NUIMS) | 609 | $\frac{\frac{2167}{609}}{2167} \times 371 = 104$ |
| 3 | NNPC Engineering & Technical Company Ltd. (NETCO) | 115 | $\frac{115}{2167} \times 371 = 20$ |
| 4 | NNPC Trading Limited | 144 | $\frac{144}{2167} \times 371 = 25$ |
| 5 | NNPC Enserv Limited | 186 | $\frac{186}{2167}$ × 371 = 31 |
| | Total | 2,167 | 371 |

Source: Researcher Computation, 2025

This study used stratified random sampling technique in selecting the respondents for the study. This technique was used by dividing the population into distinct, non-overlapping strata based on relevant characteristics such as the subsidiary name. From each stratum, respondents were randomly selected in proportion to their representation in the overall subsidiary population, this ensures that every member of the population has an equal chance of being selected, hence reducing the potential for selection bias and enhances the credibility of the research findings. Since each of members of the population has an equal chance being selected, this technique tends to produce a sample that is representative of the whole population, ensuring that the results can be generalized.

Primary source of data was explored in getting important and useful information for the study. The data were gathered from the respondents through a closed ended questionnaire structured on a five-point likert scale ranging from strongly agree to strongly disagree. The questionnaire constructs were adapted from various sources. For feedback it was adapted from the study of Mwita et al. (2024); while reward system was adapted from the works of Reddy (2024), and employee productivity from the study of Meshack and Appolosius (2021) respectively. Partial least squares Structural equation model (PLS-SEM) was used to measure the relationship between the independent variable and the dependent variable, the model is represented as thus:

FBK1 FBK2 FBK3 FBK4 Feedback FRK5 EMP1 EMP2 FMP3 EMP4 **Employee** RWS1 EMP5 Productivity RWS2 RWS4 Reward System

Figure1: Model Specification

Source: SMART-PLS Output, 2025

RESULTS AND DISCUSSION

Out of the three hundred and seventy-one (371) distributed questionnaires, 341 were properly filled and returned giving a response rate of 91%. Subsequently, all further analyses were done using 341 responses.

Assessment of Measurement Model

In assessing the measurement model, the researcher began by assessing the item outer loadings. As a rule, loadings above 0.708 are recommended, as they indicate that the construct explains more than 50 percent of the indicator's variance, thus providing acceptable item reliability (Hair, et al., 2019). However, Hair, et al., (2019) posited that low but significant indicator loading of 0.50 can be included hence justifying why indicators with loadings less than 0.708 and above 0.50 were not deleted from the model as seen in figure 2.

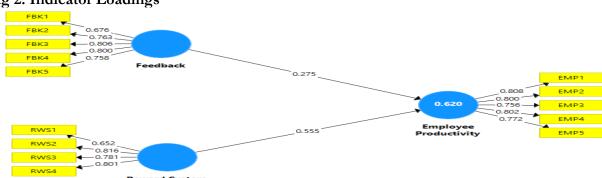


Fig 2: Indicator Loadings

Source: SMART, PLS Output, 2025

Table 3: Reliability of study scale

| S/N | Variables | | Factor Loadings | Cronbach Alpha | Composite Reliability | Average Variance | No of Items |
|-----|--------------|--------|--------------------|-------------------|-----------------------|---------------------|----------------|
| | | | _ | | _ | Extracted | |
| | T 11 1 | L'DIZ4 | 0.474 | 0.000 | 0.072 | (AVE) | |
| 1 | Feedback | FBK1 | 0.676 | 0.823 | 0.873 | 0.581 | 5 |
| | (FBK) | FBK2 | 0.763 | | | | |
| | , , | FBK3 | 0.806 | | | | |
| | | FBK4 | 0.800 | | | | |
| | | FBK5 | 0.758 | | | | |
| 2 | Reward | RWS1 | 0.652 | 0.767 | 0.849 | 0.586 | 4 |
| | System | RWS2 | 0.816 | | | | |
| | (RWS) | RWS3 | 0.781 | | | | |
| | , , | RWS4 | 0.801 | | | | |
| 3 | Employees' | EMP1 | 0.808 | 0.848 | 0.891 | 0.620 | 5 |
| | Productivity | EMP2 | 0.800 | | | | |
| | (EMP) | EMP3 | 0.756 | | | | |
| | . , | EMP4 | 0.802 | | | | |
| | | EMP5 | 0.772 | | | | |

Source: SmartPLS Output, 2025

Composite reliability of Jöreskog's (1971) was applied to test for internal consistency of the study. All the values fall within the Hair, et al., (2019) rating of good consistency. The Cronbach alpha value was above 0.60 which is the minimum threshold as recommended by Sekaran (2010). To test for the convergent validity, the average variance extracted (AVE) was used. All the latent variables showed values greater than 0.50 which indicates that the constructs explain at least 50 percent of the variance of its items. According to Henseler, et al., (2015) the Fornell-Larcker criterion does not perform well when explaining discriminant validity, particularly when the indicator loadings on a construct differ only slightly. As a replacement, they proposed the Heterotrait-Monotrait (HTMT) ratio of the correlations which is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Voorhees et al., 2016). Discriminant validity problems are present when HTMT values are high than 0.90 for structural models (Henseler, et al., 2015).

Table 4: Heterotrait-Monotrait Ratio (HTMT)

| | Feedback | Reward System | Employees' Productivity |
|---------------|----------|---------------|-------------------------|
| Feedback | 1.000 | | |
| Reward System | 0.548 | 1.000 | |
| Employees' | 0.654 | 0652 | 1.000 |
| Productivity | | | |

Source: SmartPLS Output, 2025

The variance inflation factor (VIF) was used to evaluate collinearity of the formative indicators. All the VIF values were less than 5 indicate the absence of critical collinearity issues among the indicators of formatively measured constructs (Hair, et al., 2019).

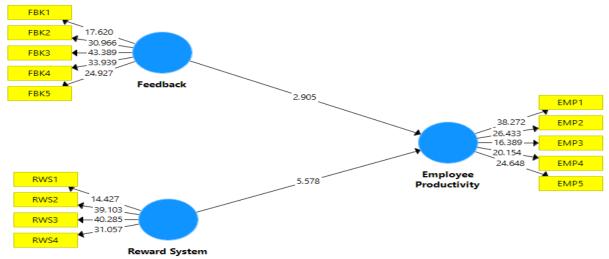
Model Goodness of Fit (GoF)

Sequel to the need to validate the PLS model, there is a need to assess the goodness of fit of the model as Hair, et al. (2017) suggested. This study used the standardised root mean square residual's (SRMR). The choice of this index was based on the fact that the SRMR provides the absolute fit measure where a value of zero indicates a perfect fit. The study adopted Hu & Bentler (1998) suggestion that a value of less than 0.08 represents a good fit while applying SRMR for model goodness of fit. The study result indicates an SRMR value of 0.030. This indicates the model is fit.

Assessing the Structural Model

Having satisfied the measurement model assessment, the next step in evaluating PLS-SEM results is to assess the structural model. Standard assessment criteria, which were considered, include the path coefficient, t-values, p-values and coefficient of determination (R²). The bootstrapping procedure was conducted using a resample of 5000.

Fig. 3: Path Coefficients of the Regression Model.



Source: SMART, PLS Output, 2025

Table 5: R² and predictive Relevance of the Model

| - | R Square | Q^2 (=1- P val. SSE/SSO) |
|-------------------------|----------|----------------------------|
| Employees' Productivity | 0.620 | 0.598 |

Source: SmartPLS Output, 2025

The R-square value stood at 0.620 indicating that performance appraisal proxied by feedback and reward systems are responsible for 62% variation in the employees' productivity. The remaining 38% variation could be explained by other factors not included in the study. Based on Hair, et al., (2019), the r-square is considered substantial. The result of the path analysis is presented in the table 5:

Table 5: Path Coefficients

| Variable | Path Coefficient ***(Beta) | t-value | p-value | Findings |
|--|----------------------------|---------|---------|----------|
| Feedback -> Employees' Productivity | 0.275 | 2.905 | 0.004 | Rejected |
| Reward System -> Employees' Productivity | 0.555 | 5.578 | 0.000 | Rejected |

Source: SmartPLS Output, 2025

The result from the analysis indicates that feedback has positive and significant effect on employees' productivity in subsidiaries of Nigerian National Petroleum Company Limited. The decision was reached based on the t-value of 2.905 which is greater than 1.964 and a beta value of 275 with a p-value of 0.004. The positive effect implies that when employees receive regular and constructive feedback, they are more likely to understand their performance levels and areas for improvement. This clarity can lead to increased overall productivity. This finding is in agreement with that of Uzochukwu et al. (2024) who found that feedback has positive and significant effect on employee productivity in Nigerian federal regulatory agencies, with emphasis on the National Agency for Food and Drug Administration and Control (NAFDAC).

The result from the analysis indicates that reward system has positive and significant effect on employees' productivity in subsidiaries of Nigerian National Petroleum Company Limited. The decision was reached based on the t-value of 5.578 which is greater than 1.964 and a beta value of 0.555 with a p-value of 0.000. This implies that that when an organization implements an effective reward system such as

financial incentives, recognition programs, or career growth opportunities employees tend to perform better and become more productive This finding agrees with that of Adam (2024) who made similar findings that reward has positive and significant effect on employee productivity of hospitality services in Ghana.

CONCLUSION AND RECOMMENDATIONS

The study concluded that performance appraisal has significant effect employee productivity in NNPCL. Based on the study's findings,

- i. The subsidiaries of Nigerian National Petroleum Company Limited (NNPCL) should foster a culture of peer-to-peer feedback. This can enhance team collaboration and create a supportive work environment where employees learn from one another.
- ii. The subsidiaries of Nigerian National Petroleum Company Limited (NNPCL) should provide training for managers on how to effectively use the reward system to boost team morale and productivity. This includes recognizing individual and team achievements. Also, they should customize reward packages to meet the diverse needs and preferences of employees. This could involve surveys to understand what types of rewards would motivate different groups

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Appendix: Research Questionnaire

| S/N | INDICATOR | | Agreement scale | | | | | |
|-----|--|---|-----------------|---|---|---|--|--|
| | Feedback (FBK) | | | 3 | 2 | 1 | | |
| 1 | I receive regular assessment on how well I do my work | 5 | 4 | 3 | | 1 | | |
| | , | | | | | | | |
| 2 | We have regular meetings to discuss performance progress | | | | | | | |
| 3 | The superiors provide me with constructive criticism during my reviews | | | | | | | |
| 4 | The appraisal in the organization is a fair reflection of my performance | | | | | | | |
| 5 | The evaluation provides me with information on areas that needs improvements | | | | | | | |
| | Reward System (RWS) | 5 | 4 | 3 | 2 | 1 | | |
| 1 | The reward system recognizes individual contributions | | | | | | | |
| 2 | I am satisfied with the incentives provided for my efforts at work | | | | | | | |
| 3 | Rewards are given in a timely manner after performance is demonstrated | | | | | | | |
| 4 | The reward system fairly recognizes employees who exceed performance expectations | | | | | | | |
| 5 | The organizational offers forms of benefits to meet different employee preferences | | | | | | | |
| | Employee Productivity (EMP) | 5 | 4 | 3 | 2 | 1 | | |
| 1 | I am able to meet my work deadlines consistently | | | | | | | |
| 2 | Employees work efficiently and minimize waste | | | | | | | |
| 3 | I take initiative to find ways to improve work processes and efficiency | | | | | | | |
| 4 | The quality of work produced by employees is high | | | | | | | |
| 5 | I am provided with the tools and resources needed to perform my tasks effectively | | | | | | | |