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## Impact of Performance Appraisal Fairness on Employee Productivity in Nigerian Federal Regulatory Agencies

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**ABSTRACT:** *In recent times, and in light of the global economic downturn, there have been calls for accountability and improved efficiency in the Nigerian public sector. The recently announced implementation of performance appraisal system across the entire federal civil service has highlighted the need for a review of the practice of performance appraisal in the public sector given the typical political influence that permeates most organizations in the sector. Drawing upon Equity Theory, this study examines the impact of performance appraisal fairness on employee productivity in Nigerian federal regulatory agencies, with emphasis on the National Agency for Food and Drug Administration and Control (NAFDAC). 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 interactional, procedural and distributive fairness in performance appraisal were statistically significant and positively influenced employees' productivity in NAFDAC. Thus, the study recommends that considering the planned implementation of performance appraisal system across the entire federal civil service, government should design performance appraisal systems that will appropriately address these constructs to improve efficiency, accountability and productivity of the public sector.*

**KEY WORDS:** distributive fairness, procedural fairness, interactional fairness, appraisal feedback, employees' productivity

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### INTRODUCTION

Globally the term employee productivity connotes the measure of an employee's efficiency in producing goods or services, particularly when juxtaposed with expended resources such as cost, time and effort. Efficiency of their workforce and human resources management is something organizations are passionate about, as it is key to gaining and retaining competitive advantage

(Collins, 2021). To be able to achieve set goals, the organization needs employees who have good performance (Riyanto et al., 2021) and for this reason, employers of labour usually monitor employee productivity with a view to evaluating the effectiveness of the workforce and identifying areas for needed improvement. Organizations have several human resource management strategies for improving employee productivity and these include offering incentives to promote workforce engagement, the application of knowledge, capacity preparation, employee training, and setting clear goals through performance appraisal systems. (Singh et al. 2020).

Performance appraisal is a system implemented in reviewing and evaluating the performance of employees (Wang et al., 2022). It helps reinforce good performance, alerts managers to the need for training and development in certain areas, assists a poorly performing staff and establishes reward and promotion systems to improve performance (Dal Corso et al., 2020; Alase and Akinbo, 2021). Absence of clear indicators of work performance and behaviour often results in employees' job dissatisfaction, lack of organisational commitment, bad behaviour, and reduction of work performance (Na-Nan et al., 2020; Cook, 2021). The effectiveness of a performance assessment is directly influenced by the fairness of its grading method and processes, which include distributive, procedural, and interactional fairness (Simon-Davies, 2019). Researchers in human resource management and development pay a lot of attention to problems of performance appraisal (Mollel et al., 2023) which often demoralise and demotivate hard-working employees (Na-Nan, Kanthong, Jountrakul and Smith, 2020). Unfair appraisals or perceived inequities in reward distribution may adversely affect employee morale and productivity (DeConinck, 2010; Erdogan & Bauer, 2014). Within the past ten years and in light of the global economic outlook, the dynamics of modern societies have raised concerns about the cost and efficiency of governance and government related matters (Neumann & Schott, 2021).

Government in Nigeria is considered to be the largest employer of labour, because its three tiers of government namely the federal, state and local; individually employ public servants in various government agencies and parastatals. Public sector employees are therefore the largest population of the nation's workforce and are expected to deliver economic growth and sustainability. In contrast, the productivity of public sector employees is viewed as not commensurate with the high level of government's expenditure on the sector and this has raised the question of the effectiveness of the existing employee performance appraisal system practiced by human resources management in the public sector. Following increasing demand and pressure for accountability in the sector, the Federal Government of Nigeria through the Head of Service of the Federation announced the implementation of Performance Management System across the federal civil service with a view to delivering efficient service and holding employees accountable (ThisDay Newspapers, 2022). It is a known fact that human resources management practices include policies for dealing with essential workforce issues such as the promotion of workforce engagement, evaluation, the application of knowledge, capacity preparation, employee training, and staff retention (Singh et al. 2020).

However the presence of political influence in the Nigerian public sector has prejudiced the human resource management process, making it less objective than is obtainable in the private sector. This has led to complaints by public sector employees who perceive the appraisal process as being subjective rather than objective. Unfair appraisals or perceived inequities in reward distribution adversely affect employee morale and productivity (DeConinck, 2010; Erdogan & Bauer, 2014) and recent studies suggest that the absence of clear and transparent criteria for performance appraisal in organizations leads to ambiguity and subjectivity, impacting employees' understanding of expectations (Abdullah, 2020). The application of the performance appraisal system in the public sector therefore requires proper management in order to avoid possible unfairness (Mollel et al., 2023) which could decrease employee productivity. This study is conducted in the context of performance appraisal perception in National Agency for Food and Drug Administration and Control (NAFDAC) and encompasses challenges related to appraisal fairness perceptions, feedback, motivation, and supervisor-subordinate relationships. Previous studies carried out in relation to this topic have focused on the structural factors; but not much attention has been paid to the key psychological factors of performance appraisal fairness that affect employee productivity. Also, although some studies carried out on this topic have addressed government employees at state and local government levels, attention has not been focused on employees of federal regulatory agencies in Nigeria. This research highlights the significance of addressing these issues to improve the effectiveness of performance appraisals and subsequently enhance employee productivity and accountability within regulatory agencies such as NAFDAC and indeed across the federal civil service. The primary objective of this research is to evaluate the impact of performance appraisal fairness on employee productivity in selected Federal Regulatory Agencies in Nigeria. The specific objectives are as follows:

- (i) To assess the impact of distributive fairness on employee productivity in NAFDAC.
- (ii) To determine the impact of procedural fairness on employee productivity in NAFDAC.
- (iii) To examine the impact of interactional fairness on employee productivity in NAFDAC.
- (iv) To analyse the impact of appraisal feedback on employee productivity in NAFDAC.

The following null hypotheses are developed for this study:

H<sub>01</sub>: Distributive fairness has no significant impact on employee productivity in NAFDAC.

H<sub>02</sub>: Procedural fairness has no significant impact on employee productivity in NAFDAC.

H<sub>03</sub>: Interactional fairness has no significant impact on employee productivity in NAFDAC.

H<sub>04</sub>: Appraisal feedback has no significant impact on employee productivity in NAFDAC.

## LITERATURE REVIEW

### *Equity Theory*

Equity theory which is based on the concept of justice or fairness is a social psychological theory that focuses on fairness perceptions and their influence on individuals' motivation, attitudes, and behaviour. It was developed by Adams (1965), and emphasizes that employees assess fairness by comparing their input (eg. effort, skills put into tasks) and outcomes (eg. rewards, recognition, promotions) with those of others in similar roles (Adams, 1965). The theory has three essential aspects - input, outcome, and comparison levels. Input denotes the amount of effort that a person puts into a relationship; outcome implies the rewards that a person receives from a relationship; while comparison level refers to the person's ideal level of input and outcome in a relationship. The underlying principle behind Equity theory is that individuals tend to compare inputs i.e what has been contributed, to outcomes (what has been received); for both themselves and a chosen referent other (Adams, 1965). In terms of management discipline, inputs comprise the employee's individual contributions (e.g., performance, education, work experience), and outcomes are rewards that the employee receives in exchange for their contributions, such as career progression opportunities, compensation and promotions. When employees perceive a balance between their efforts and the rewards they receive, they are more motivated and exhibit higher productivity (Tefera & Hunsaker, 2020). The theory posits that should there be a discrepancy between inputs and outcomes, individuals tend to reduce the disparity by altering their contributions, attitudes, or outcomes to restore the balance between the two ratios.

Fairness is regarded as the main reason for employees' positive attitudes toward work and the desirable expected behaviour, unfairness often occurs, especially in performance appraisal through problems with the appraisal process and the appraising person (Na-Nanet al., 2019). These problems affect attitudes and behaviour. Fair performance appraisals positively influence employee attitudes and subsequent productivity. Studies by Tremblay et al. (2019) explore the impact of perceived inequity on various employee outcomes, highlighting its negative influence on motivation and performance. Providing transparent criteria for appraisals and ensuring clear communication regarding how performance evaluations are conducted can enhance perceptions of fairness (Bretz et al., 1992; Rusbadrol et al., 2021). Equitable distribution of rewards based on performance appraisal outcomes can mitigate perceptions of inequity and promote higher productivity (DeConinck, 2010). Equity Theory provides a framework for understanding how fairness perceptions in performance appraisals influence employee productivity in organizations like NAFDAC. Recent research emphasizes the importance of perceived fairness and equitable treatment in the appraisal process, highlighting their positive impact on employee motivation and productivity. When applied to the context of performance appraisal and employee productivity in organizations like NAFDAC, several aspects of Equity theory become evident, supported by recent references.

### ***Fairness of Performance Appraisal and Organizational Justice***

Performance appraisal consists of a structured formal interaction between a subordinate and superior, usually carried out in the form of periodic interviews either annually or semi-annually, wherein the performance of the subordinate is examined and discussed with the aim of identifying weaknesses, strengths and potential for growth and development (Tersoo et al. 2018). Performance Management System has also been defined as the metrics used to quantify the efficiency and effectiveness of an action based on individual or team results in line with objectives, planned goals, and standards (Naslund and Norrman, 2019; Eneanya, 2020). The term has also been defined as a concept which compels an organization's employees to understand what the organization expects of them, and the parameters in which the overall productivity will be measured so as to make certain of goal accomplishment, staff progress, and organizational growth (Daniel, 2020). Performance appraisal is said to help an organization reinforce good performance, alert managers to the need for training and development in certain areas, assist a poorly performing staff and establish reward and promotion systems to improve performance (Alase & Akinbo, 2021). It has also been defined (Wang et al., 2022) as a system implemented in reviewing and evaluating the performance of employees.

Organizational justice refers to the extent to which individuals within an organization believe that the rewards they receive and how they are treated are fair and in line with expected moral and ethical standards (Rusbadol et al., 2021). Organizational Justice is based on the equity theory and opines that employees who are treated equally usually exhibit positive attitudes toward their work and manifest effective working behaviour. However, if they are treated unfairly, negative attitudes and behaviour occur, such as a reduction of job satisfaction (Bakhshi et al., 2009; Ozel & Bayraktar, 2018), lack of organisational commitment (Jiang et. Al., 2017; Suifan et al., 2017) and low organisational citizenship behaviour (Akan et al., 2009; Deng, 2012; Singh & Singh, 2019). When employees perceive a balance between their efforts and the rewards they receive, they are more motivated and exhibit higher productivity (Tefera & Hunsaker, 2020). Employees evaluate their inputs against the outcomes they receive through the appraisal process. When they perceive a fair exchange ratio, it positively influences productivity (Erdogan & Bauer, 2014). Perceived inequity, such as feeling under-rewarded or over-rewarded compared to peers, may lead to reduced motivation, decreased job satisfaction, and potentially lower productivity levels (Cohen-Charash & Spector, 2001).

Organizational justice theory presents three dimensions of justice which are interactional justice (IJ), procedural justice (PJ), and distributive justice (DJ). Interactional justice is the fairness of the interpersonal treatment given to the employee in the course of explaining procedures and outcomes (Hermanto & Srimulyani, 2022) and focuses on how individuals relate to communication and interpersonal treatment that they receive from their organization; procedural justice refers to the fairness of the appraisal process irrespective of the outcome of the appraisal – ow individuals view the fairness of all the procedures used while making employees' related decisions (Lin & Hsieh,



2010); while distributive justice describes the fairness of work evaluation and resource distribution. Distributive justice compares inputs (efforts) of employees to outcomes from organizations such as performance appraisal, salary, appreciation, etc. (Whitman et al., 2012).

Organizational justice is important for organizational success and directly relates to employee performance (Paracha et al., 2020). It is one of the organizational factors that can affect organizational citizenship behavior (Varihanna & Nizam, 2020). This study will utilize Organizational Justice Theory as the conceptual framework to explain and operationalize fairness of the appraisal system as the independent variable of this research; viz, interactional fairness, procedural fairness, and distributive fairness.

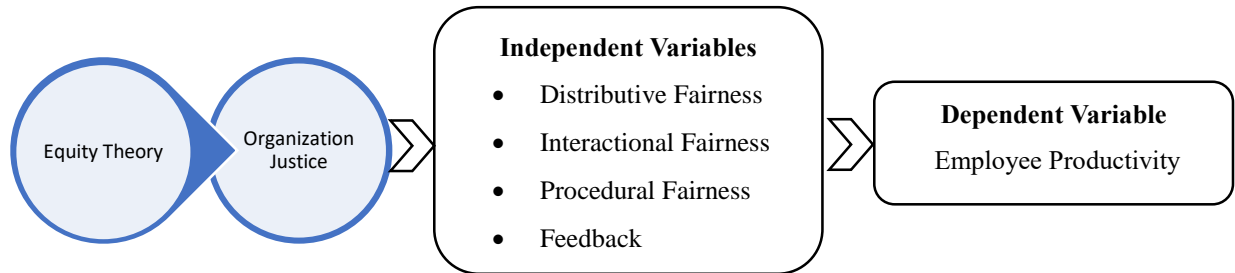
### ***Feedback***

The purpose of conducting performance appraisal in any establishment is to obtain feedback. Feedback has been named by Dessler (2015) as one of the five factors that affect organizational justice, viz; task characteristics, feedback frequency, managerial performance, subordinate trust level and organizational climate. In the same vein, (Lambert and Hogan, 2009) identified task characteristics, organizational trust, and frequency of feedback, managerial performance and organizational culture as indicators of organizational justice. Also, fair promotion opportunities, recognition of hard work, fair performance appraisal procedures, fair supervisor attitudes, appropriate performance appraisals and rewards based on skills and education were identified by (Whitman et al., 2012) as indicators of organizational justice. This study will therefore adopt feedback as the fourth construct for examining the perception of performance appraisals within the context of federal regulatory agencies.

### ***Employee Productivity***

Employee performance refers to the behaviour of employees in meeting standards set by the organization in order to achieve the desired organizational goals (Kristian and Ferijani, 2020). It is a term used to describe the competence of employees to effectively and efficiently utilize resources to achieve personal or organizational goals (Daft, 2016). The performance of an individual employee can be described by various terms such as presenteeism, performance, or productivity (Koopmans, 2013). Perceptions of organization justice can drive the emergence of organizational citizenship behavior in employees, and organizational citizenship behavior in turn affects employee productivity (Hermanto & Srimulyani, 2022); in addition, employee awards, compensation, and treatment inequalities can affect employees and organizational performance.

This study will use the term employee productivity as a proxy for employee performance, and will follow Kim and Rubianty (2011)'s 3-dimensional scale for employee appraisal fairness, namely; interactional fairness (IF), procedural fairness (PF), and distributive fairness (DF).



Conceptual Framework by Author

### Empirical Review

This section discusses previous empirical literature on performance appraisal and its perception by employees, based on the broad and specific objectives of the study.

A number of previous studies have found that feedback significantly affects employee performance appraisal. Sajuyigbe (2017) conducted an investigation into how performance assessment systems affected workers in the telecom industry in Nigeria. The study focused on a survey of 260 employees in the telecom sector and data collected was analysed using descriptive survey design, which included the use of a simple random sampling approach. Results indicated that employees in the Nigerian telecommunication industry possess a high degree of performance evaluation awareness and that employee performance is significantly influenced by the performance assessment method used. Results also showed that feedback had a significant positive effect on performance evaluation methods at MTN, Nigeria. The study was limited by its confinement to employees of only one telecommunications firm. The results correspond to those of a similar study conducted by Oghenevwegba (2022) on a sample of 89 Nigerian employees of MTN in Delta state, which found that employee performance in the telecom sector is significantly influenced by the performance assessment method used, and recommended that appropriate feedback should be provided while standardizing the appraisal instrument. A study conducted by Ameen and Baharom (2019) on the effect of performance appraisal purposes on employee performance in Nigerian civil service utilized conceptual literature review on the dependent variable of employee performance and independent variables of feedback, recognition, training, job promotion and financial reward. The study was based on Vroom's expectancy theory. Results found that performance appraisal feedback has a positive effect on employee performance and is useful for organizations to achieve employee efficiency.

In another study which analysed the effects of the performance system on employees of Pakistan Telecommunications Limited, Shah, Pathan and Shah (2022) utilized employee productivity as the dependent variable, and performance assessment system as the independent variable. In the descriptive research which used survey design, non-managerial staff were randomly given

standardized questionnaires that were based on a five-point Likert scale. The research study used Smart PLS 3 software to evaluate the replies of 210 non-managerial workers and the results showed that when workers are allowed to express their ideas and expectations for how the firm might reach its strategic objectives, the performance evaluation system became much more successful. Results showed that effective assessment feedback has the potential to boost employee productivity. In the same vein, Nvene, Yusuf & Shuaibu (2022) carried out a study to evaluate the effect of performance appraisal on employee productivity in Federal civil service Abuja using a descriptive research design. A survey was administered to respondents with the use of a structured questionnaire and ordinary least square regression model was used to assess the nature and degree of relationship between the dependent variable productivity and the independent variables of employee feedback, performance-based rewards and appraisal. Findings from the study indicated that employee feedback has a significant effect on employee productivity and performance, and recommended that employee feedback should be a pre-requisite for appraisals.

Appraisal feedback was also found to significantly affect employee work performance as well as their work motivation in a research conducted by Ebegetale, Enwezor & Showemimo (2023) to investigate the effect of performance appraisal feedback on public sector employees' work performance among Lagos Skills Acquisition centre staff. The study used simple random sampling to administer a survey to 231 participants. Data analysis was by descriptive, correlation, regression and regression techniques. The study used employee work performance and appraisal feedback as variables and work motivation as a moderator. Mollel, Mulongo, and Razia (2023) carried out an investigation into how public servants in Tanzania's Muheza District view performance evaluation management systems. A total of 339 workers were chosen at random from a target population of 2232 to participate in the study through questionnaires and interviews. Prior to data collection, specialists evaluated the questionnaire and interview schedules. Using Cronbach's Alpha, a satisfactory level of reliability was guaranteed by the questionnaire. Descriptive statistics estimated mean scores while Pearson Product moment correlational Coefficient appraised potential relationships between the independent and dependent variables. The findings of the study indicated that recognition and feedback are vital to employee performance and indeed influenced employee productivity. In order to examine the impact of performance appraisal justice on employees' work engagement in the public sector, Micacchi, Vidé, Giacomelli and Barbieri (2023) carried out a study to review the relationship between the characteristics of performance appraisal systems, employees' perceptions of performance appraisal justice, and work engagement in the public sector using a combination of structural equation modeling and discrete choice experiment to test the variables interactional, distributive and procedural justice. Observational and experimental data was collected from 11 public sector organizations in Italy, The results showed that designing performance appraisal systems with calibration mechanisms and rater-ratee feedback sessions led to perceived fairer appraisals, with performance appraisal justice being linked with public employees' work engagement.



Several other studies have delved into the reasons for diverse perceptions of the fairness of performance appraisals in the workplace. Krishnan, Ahmad and Haron (2018) based their study on the Equity Theory and Social Exchange Theory while investigating the relationship between employees' perceived fairness of performance appraisal i. e procedural justice, distributive justice, and interactional justice; and their commitment towards the organization. Simple random probability sampling technique was used to administer questionnaires to 155 non-executive employees in Malaysia's oil and gas industry. The data was analyzed using correlation and regression and SPSS software. From the findings, interactional justice had a high impact on employee organizational commitment.

Research was conducted by Khan, Hussain and Khan (2020) to determine the effect of organizational justice on employee satisfaction during the performance appraisal process. Data was collected from a sample of 180 faculty members of public sector universities of Pakistan regarding the variables included in the study which were administrative purpose, developmental purpose, procedural justice, distributive justice, interactional justice and employee satisfaction. Correlation and regression analysis was used to analyze collected data with the aid of SPSS software. The study found a significant effect of procedural, distributive and interactional justice during performance appraisal on employee satisfaction. A study was conducted by Nazaruddin, Sofyani, Wahyuni & Suryandari (2021) to examine the mediating effect of performance appraisal satisfaction on the relationship between organizational justice and trust to the performance of lecturers in reputable universities in the Special Region of Yogyakarta, Indonesia . It was carried out as a cross-sectional study which administered a survey to 205 lecturers. Reliability and validity testing and structural equation models (SEM). were used to analyze the relationship between variables. Results indicated that organizational justice and trust improved the performance of lecturers, and that performance appraisal satisfaction was a mediator between organizational justice and trust.

Another empirical research conducted by Ozigi & Onyeukwu (2022) examined the effect of performance appraisal fairness on employees' performance at the Nigerian Television Authority Abuja. The variables used were procedural fairness, distributive fairness and interactional fairness. The study used a philosophical approach guided by quantitative research design to sample the views of 165 employees using Taro Yamane formula for calculating sample size. Empirically, descriptive and inferential statistics were used to test the responses while SPSS was utilized to perform all the statistical analyses. The results found that distributive fairness, procedural fairness and interactional fairness strongly affected employee productivity at the organization. In their study to empirically explore the impact of the perceived developmental purpose of performance appraisal on work engagement, with perceived performance appraisal justice as mediator, Vidè, Micacchi, Barbieri & Valotti (2023) based their research on the Social Exchange theory. Data was analyzed using structural equation modeling based on data collected from an online survey administered to 1,482 Italian civil servants. Findings indicated that perceived developmental appraisal positively impacts on the work engagement of public employees. Interactional justice

was found to have a significant positive effect on work engagement; however, distributive and procedural justice did not significantly affect work engagement.

In their study on the effects of organizational justice on employee performance with organizational citizenship behavior as mediator, Hermanto and Srimulyani (2022) used convenient sampling technique to collect data from 820 teachers from high schools and vocational high schools in Indonesia. Structural equation model (SEM) and Sobel test were used to analyse the data collected and findings were that organizational justice significantly improved employee productivity and organizational citizenship behaviour; both at the individual and organizational level. Results also indicated that improving the productivity of teachers can be achieved by management using organizational justice practices in the work environment as well as management efforts. Taneja, Srivastava and Ravichandran (2023) explored employees' fairness perception towards performance appraisal system in the Indian banking industry and collected data from 600 respondents using multiple hierarchical regression. Multi-stage random sampling technique was used to select the sample. The findings were that the five-factor model of justice dimensions is more applicable than the three-factor model, with interpersonal justice taking precedence. It also found that the validity of appraisal criteria significantly influences the perception of justice.

Previous studies carried out in relation to the impact of performance appraisal perception on employee productivity have paid significant attention to the structural factors of performance appraisal; however, more studies need to be conducted in order to clearly identify the key psychological aspects of performance appraisal perception and their effect on employee productivity. Also, geographic gaps exist in the sense that although some studies carried out on this topic have addressed public sector employees at state and local government levels, attention has not been focused on employees of federal regulatory agencies in Nigeria.

## METHODOLOGY

The study used survey research design. Correlation and regression analysis techniques were used to interpret the data collected. Survey method allows for collection of large amounts of data, flexibility, and quantitative analysis. It provided the possibility to explain causal relationships between the study concept and variables of the study. The population is the entire permanent staff of NAFDAC as supplied by their personnel department as of 5<sup>th</sup> November 2023 is 3,673 representing all levels of management staff. This represents the population for this study. Non-probability quota sampling technique was used to administer the survey. For this study, the Taro Yamane (1967) formula is used to determine the statistically reliable sample size for the population of 3673. The formula is shown below.

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

Where N = total population

n= sample size

e= significant (error margin) significant error of 5% (0.05) was applied.

l= constant

$$n = \frac{3673}{1 + 3673(0.05)^2}$$

$$n = \frac{3673}{1 + 3673(0.0025)}$$

$$n = \frac{3673}{1 + 9.1825}$$

$$n = \frac{3673}{10.1825}$$

$$n = 361$$

The questionnaires were developed using a five-point Likert scale (from 1–strongly disagree to 5–strongly agree). The questionnaire was circulated using survey monkey online platform. This paper aims to evaluate the impact of performance appraisal perception on employee productivity in NAFDAC, Nigeria. It augmented the model presented in Tomilayo, et al (2020) as follows:

$$OP = F(\text{Performance Appraisal}) \tag{1}$$

From equation 1, OP is the dependent variable, which stands for organisational performance. In this instance, the performance appraisal consists of appraisal criteria, fairness perceptions, and feedback quality. Augmenting this equation to suit the purpose of this study and representing the equation in econometric form, we have:

$$EP = \alpha_0 + \beta_1 DF_i + \beta_2 PF_i + \beta_3 IF_i + \beta_4 AF_i + \mu_i \tag{2}$$

From equation 3,  $\alpha_0$  is the constant, and  $\mu_i$  is the error term, which is assumed to be uniformly distributed.  $\beta_1$  to  $\beta_4$  are the parameters to be estimated. Organisational performance is replaced with Employees’ Productivity (EP) while the elements of performance appraisal perception include Distributive Fairness (DF), Procedural Fairness (PF), Interactional Fairness (IF), and Appraisal Feedback (AF).

Descriptive statistics such as frequency distribution and figures will be used to analyse participants’ demographic characteristics such as number of employees, years of work experience while Multiple Regression analysis will be adopted to test the hypotheses with the aid of the IBM statistical package for social sciences (SPSS 27).

## RESULTS AND DISCUSSIONS

### Pre-estimation Analysis

Table 1 reveals the result of descriptive statistics which indicate the mean, range, standard deviation and variance of all the variables considered for the analysis. The mean value for

Employee Productivity, Distributive Fairness, Procedural Fairness, Interactional Fairness and Appraisal Feedback are 3.205776, 3.88448, 3.84838, 3.41516 and 3.65343 respectively while the standard deviation for Employees' Productivity, Distributive Fairness, Procedural Fairness, Interactional Fairness and Appraisal Feedback are 1.56185, 1.31367, 1.39569, 1.61655 and 1.10783 respectively. The minimum and maximum for each variable is 1 and 5.

**Table 3 Descriptive Statistics of Variables**

Variable	OBS	Mean	Std. Dev.	Min	Max
Employees' Productivity	354	3.205776	1.56185	1	5
Distributive Fairness	354	3.88448	1.31367	1	5
Procedural Fairness	354	3.84838	1.39569	1	5
Interactional Fairness	354	3.41516	1.61655	1	5
Appraisal Feedback	354	3.65343	1.10783	1	5

Source: Author's Computation

**Table 2 Correlation Matrix**

Variables	EP	DF	PF	IF	AF
EP	1				
DF	0.0029	1			
PF	-0.001	0.563	1		
IF	-0.0651	-0.0355	-0.0417	1	
AF	0.0043	0.4283	0.697	-0.0848	1

Source: Author's Computation

Table 2 reports the correlation matrix. The inter-correlation matrix reflects that none of the independent variables are highly correlated. It was indicated by Azu, Jelivov, Aras, and Isik (2020) and Azu and Nwauko (2021) that when the independent variables are highly corrected, independent regression is suggested for each of the correlated variables.

Estimated regression was used to test the hypothesis so as to ascertain the impact of performance appraisal fairness on employees' productivity in NAFDAC. The R-Square indicates that these independent variables could influence the dependent by 92.2 percent. The Durbin Watson (DW) statistic test indicates no autocorrelation in the residuals from the statistical regression analysis. This is evident with the value of 2.3498 which is above 2.0 which reveals no autocorrelation detected in the selected sample. Results are reported in Table 3.

**Table 3 Impact of performance appraisal fairness on employees' productivity in NAFDAC**

<b>Variables</b>	<b>Co-efficient</b>	<b>t-test</b>	<b>p-value</b>
Distributive Fairness	0.39497	9.77	0.0041
Procedural Fairness	0.36054	16.27	0.0014
Interactional Fairness	0.42808	14.08	0.0032
Appraisal Feedback	0.46773	14.01	0.0023
Constant	-0.12679	-2.56	0.0056
R <sup>2</sup>	0.922	Durbin-Watson	2.3498
R2 Adjusted	0.9214		

Sources: Author's Computation

In the first instance, the first objective is to evaluate the impact of distributive fairness on employees' productivity in NAFDAC. The regression coefficient for distributive fairness is 0.39497 which is statistically significant at one per cent. This implies that a unit increase in distributive fairness the organisation will see about 0.39497unit decrease in employees' productivity. Hence, the null hypothesis "There is no significant impact of distributive fairness on employees' productivity in NAFDAC" is hereby rejected.

The second objective is to determine the impact of procedural fairness on employees' productivity in NAFDAC. The variable procedural fairness has a regression coefficient of 0.36054 which implies that the procedural fairness has a positive impact on the employees' productivity as measure of organisational performance. Thus, suggesting that with a unit increase in the procedural fairness, the organisation will see about 0.36054-unit increase in its employees' productivity. Furthermore, procedural fairness has a p-value less than 0.01 (1%) level of significance which implies that the coefficient is statistically significant at one percent. Hence, the null hypothesis that states that "There is no significant impact of procedural fairness on employees' productivity in NAFDAC" is hereby rejected.

The third objective is to examine the impact of interactional fairness on employees' productivity in NAFDAC. The variable interactional fairness has a regression coefficient 0.42808 which implies that interactional fairness has a positive impact on the employees' productivity in NAFDAC. Thus, suggesting that with a unit increase in the interactional fairness, the organisation will see about 0.42808-unit increase in employees' productivity. This result is statistically significant at one percent. Hence, the null hypothesis that states that "There is no significant impact of interactional fairness on employees' productivity in NAFDAC" is hereby rejected.

Finally, the research assessed the impact of appraisal feedback on employees' productivity in NAFDAC. The variable appraisal feedback has a regression coefficient 0.46773 which implies that



the appraisal feedback has a positive impact on employees' productivity in NAFDAC. Thus, suggesting that with a unit increase in appraisal feedback, the organisation will see about 0.46773-unit increase in its employees' productivity. However, the result is statistically significant at one per cent. Hence, the null hypothesis that states that "There is no significant impact of appraisal feedback on employees' productivity in NAFDAC" is hereby rejected.

## CONCLUSION AND RECOMMENDATIONS

The research was piloted to investigate the impact of performance appraisal fairness on employee productivity in selected federal regulatory agencies with emphasis on NAFDAC. Findings were in line with the recommendation of (Ozigi & Onyeukwu (2022) who recommended that further research be conducted on the effectiveness of PA appraisal on public sector specific characteristics. As there currently exist some complaints regarding the process of performance appraisals in Nigerian public sector organizations, this study is relevant particularly in view of the fact that the federal government intends to implement performance appraisal across the entire federal civil service. Its findings indicate that various types of fairness in performance appraisal would positively influence employees' productivity in NAFDAC. Thus, distributive fairness, procedural fairness, interactional fairness and appraisal feedback would contribute to employees' productivity by 0.36 to 0.47 units approximately. It is the recommendation of this study that considering the planned implementation of performance appraisal system across the entire federal civil service, government, through the Head of Service of Nigeria should design performance appraisal systems that will appropriately address the three fairness dimensions identified in this research viz; distributive fairness, procedural fairness, interactional fairness as well as appraisal feedback, to ensure transparency and fairness in performance appraisals and improve efficiency, accountability and productivity of the public sector.

### Future Research

The limitations of the current research warrant further studies to enhance our understanding of the psychological elements of performance appraisal fairness that impact employee productivity. Comparative analysis with regulatory agencies in other countries or regions would provide valuable insights into the contextual factors that contribute to positive employee productivity.

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