



EFFECT OF PERFORMANCE MANAGEMENT SYSTEMS ON EMPLOYEE PRODUCTIVITY: THE CASE OF KENYA FORESTRY RESEARCH INSTITUTE (KEFRI)

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ABSTRACT

This study sought to establish the effect of performance management systems on employee productivity at KEFRI. Specific objectives were to: establish the effect of performance appraisal on employee productivity; establish the effect of performance monitoring on employee productivity; find out how communication and feedback affect employee productivity and to establish how performance contracting affect employee productivity in KEFRI. The study was conducted through correlational research design. Target population consisted of various employees, being HR managers, research and development officers, administration and finance staff, enterprise staffs, and supply chain officers. Yamane's formula was used to obtain a sample size. Stratified random sampling was used to select study respondents. Questionnaire was used for data collection. Validity of instrument was realised through incorporation of opinions of the supervisors. Reliability was attained through test-retest during a pilot study involving randomly selected employees from the organization. Multiple regressions was used to compare the relationship between coefficients of performance management practices and employee productivity. Findings revealed that there was a moderate level of employee productivity, while performance monitoring and performance contracting both have had moderate effects on employee productivity. However, performance appraisal and communication/feedback had high effects on employee productivity. All the variables had significant effect on employee productivity hence the hypotheses that performance appraisal, performance monitoring, communication/feedback, and performance contracting have no significant effect on employee productivity were rejected. The study concluded that performance management system is a significant predictor of employee productivity. It was recommended that employees be involved in designing both performance monitoring and contracting practices to align them with their own capabilities. Further research need to be done on the effects of employee involvement in designing performance monitoring and performance contracting practices on employee productivity.

Key words: Performance Appraisal, Performance Monitoring, Communication And Feedback, Performance Contracting, Employee Productivity

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INTRODUCTION

Many organizations are today operating in pressurized competitive environments than heretofore. This is largely the result of increased international trade and price competition, re- and de-regulation of product, capital and labour markets, and changes in technology and communications (McDonnell & Gunnigle, 2008). In turn, organizations world over are forced to review their structures and operations in an attempt to secure enhanced performance. One of the recently emerging strategies for enhancing performance is performance management (Armstrong, 2012). This strategy has been significantly appreciated for closely linking incentives with employee productivity (Giannetto, 2009).

Performance management (PM) is a goal-oriented process directed toward ensuring that organizational processes are in place to maximize the productivity of employees, teams, and ultimately, the organization (Armstrong, 2010). It is described as a strategic approach aimed at improving employee as well as organizational productivity by developing the individual and team's capabilities (Baron & Armstrong, 2007). Initially applied during 1970s, PM basically intends to aid the organization's management to achieve desired results and behaviour via employees (Homayounizadpanah & Baqerrkord, 2012).

Performance management encompasses activities such as continuous progress review of a worker's performance (performance appraisal), frequent communication of performance (communication and feedback), performance measurement (performance monitoring), and performance contracting (Ainobushoborozi, 2013; Aksoy & Bayazit, 2014; Drumm, 2005; Sahoo and Mishra, 2012). However, the effect of PM activities on organizational productivity has been argued by researchers (Diallo, 2017; Saravani & Abbasi, 2013; Selvarasu and Sastry, 2014; Sharma and Rao, 2018; Zayum, Aule & Hangeior, 2017) to be contextual, and not universal. Selvarasu and Sastry (2014) explored the relationship between perceptions of

performance appraisal fairness and employee engagement in the business organization context in India and found that fewer than 50 percent of companies are effectively measuring employee engagement against business performance metrics like customer satisfaction or increased market share. Conversely, Sharma and Rao (2018) found that among employees of Indian steel industry, performance appraisal significantly affects employee efficiency. The two studies (Selvarasu & Sastry, 2014; Sharma & Rao, 2018) expose how performance appraisal affects productivity differently.

Monitoring of employee performance is fundamental in assisting managers to effectively perform the control function of management (Griffin, 2012). However, most studies on monitoring have tended to concentrate on its importance in controlling, restricting and directing employee behaviors, decisions and actions in order to harmonize and coordinate the same towards achievement of individual and organizational goals (Javicijevic, 2012). Monitoring in the modern times has taken the direction of electronic surveillance, paying attention to three key areas including employee performance, use of computer and information technologies and employee behaviors in relation to utilization of resources (Büyük & Ugur, 2012). Limited focus seems to be directed at monitoring as a process in performance management and employee productivity. For instance, a study conducted by Ahmed (2007) in Nigeria on analysis of workplace surveillance which was conducted on university employees, found out that 66% of the employees were positive about the surveillance, while 33% were intrusive and had a negative appeal on the monitoring practices. Gichuhi, Ngari and Senaji (2016) analysed the relationship between CCTV surveillance and employees' engagement in commercial banks in Kenya. They found that that there is a positive correlation between CCTV monitoring and employees' engagement.

According to Bartz (2017), communication, feedback, and coaching must be initiated by every manager to ensure effective performance appraisal. Attending, reflecting, exploring, self-disclosure, and acceptance are some of the practices that create effective verbal communication (Bartz, Thompson, & Rice, 2017). Communication and feedback of employee performance has however received limited attention. Thus negating the role of communication as a tool of PM. Asamu (2014) examined the significant relationship between communication and workers' performance in some selected organisations in Lagos State, Nigeria. The result revealed that a relationship exists between effective communication and workers' performance, productivity and commitment. Otoo (2015) investigated the role of effective communication on organizational performance using Ghanaian Revenue Authority (GRA) as a case study. It found that various employees' performance indicators are found to correlate with varying measures of effective organizational communication. It is instrumental to notice that both Asamu (2014) and Otoo (2015) did however not focus on communication as a tool for performance management aimed at enhancing employee productivity.

Performance contracting is another core activity that makes up performance management. According to Ouma and Karanja (2018), performance contracting involves setting of targets with regard to availability of production resources. However, researchers like Amah, Nwuche and Chukuigwe (2013) argue that the success of organizations to a very large extent depends on the type of targets organizations set and how well they are able to lead teams to achieve the set targets. Indeed Ouma and Karanja (2018) equally established in a study done in Kenya that employee motivation, employee training, legal framework as well as monitoring and evaluation were important factors that needed to be applied to enhance implementation of performance contracts. It is emerging thus that performance contracting may

not obviously lead to employee productivity: moderating circumstances in the context must also be put into consideration.

The foregoing studies adduce evidence that PM practices have influence on employee productivity albeit the same is contextual based. However, most of the studies covering such practices have tended to relate the same with employee satisfaction. It is also critical to note that studies on PM that have been done in Kenya have tended to focus on individual practices or activities. Effects of performance appraisal practices; employee monitoring; communication and feedback and performance contracting have been focused upon in research (Munguti & Kanyanjua, 2017; Kanaslan & Iyem, 2016; Kago, 2014; Ouma & Karanja, 2018). However, PM systems in its entirety have not been focused upon to reveal the actual practices whose implementation has led to improved employee productivity particularly among state corporations under research like KEFRI.

KEFRI is a state corporation established in 1986, under the Science Technology and Innovation (STI) act No.28 of 2013. The institute is under the Environmental protection, water and natural resources sector, and undertakes research to generate and promote improved technologies for sustainable management, conservation and development of forests and allied resources. The institute conducts research and development activities under five thematic comprising forest productivity and improvement, biodiversity and environmental management, forest product development, socio-economics, policy and governance, technical support services.

Statement of the Problem

Organizations including public corporations are today faced with competitive business environment courtesy of liberalized markets and advancement in communication technology. Performance management (PM) systems are aimed at driving forward improvement in public service delivery and enhancing the sustainability of employee

productivity. PM activities like employee appraisal, communication and feedback, performance monitoring and performance contracting have been focused upon as affecting employee productivity in different organizations. However, these management practices (performance management practices) seem not to have been looked at in their entirety as factors affecting employee productivity among public corporations like Kenya Forest Research Institute. For instance, one of the core activity that ensures achievement of forest productivity and improvement goal is seed collection. During the last quarter of 2018 and the first quarter of 2019, the corporation realised a deficit of -1294.5 against a target of 20325 in seed collection. Similar deficit of -1394.5 against a target of 22325 was also realised during the last quarter of 2017 and the first quarter of 2018. These are indicators of ineffectiveness of human resource management practices including performance management in the organization. Scholars have linked performance management system practices with improved employee productivity. However, scanty information seemed to be available with regard to the application of the afore mentioned performance management practices with an aim to enhancing employee productivity in KEFRI.

Objective of the Research

The main objective of the study was to establish the effect of performance management system on employee productivity in KEFRI. The specific objectives of the study were:

- To establish the effect of performance appraisal on employee productivity in KEFRI.
- To assess the effect of communication and feedback on employee productivity in KEFRI.
- To find out the effect of performance monitoring on employee productivity in KEFRI.
- To establish the effect of performance contracting affect employee productivity in KEFRI

Research Hypothesis

- **H0₁**: - Performance appraisal has no significant effect on employee productivity in KEFRI.

- **H0₂**: -Communication and feedback have no significant effect on employee productivity in KEFRI.
- **H0₃**: -Performance monitoring has no significant effect on employee productivity in KEFRI.
- **H0₄**: -Performance contracting has no significant effect on employee productivity in KEFRI

LITERATURE REVIEW

Organizational Justice Theory

Organizational justice refers to perceptions of fairness within an organizational setting (Greenberg, 1990), it has become a focus of justice researchers. Organizational justice has been widely accepted that it contributes to employee performance. Adams' equity theory articulates that the effort directed at job performance can be altered in situations where an individual perceives the outcome/input ratio to be unjust (Adams, 1966). Interestingly, some empirical studies have found that individuals decrease their performance to reduce input when they are underpaid, and increase their performance to produce more input when they are overpaid (Greenberg, 1982). The equity theory has provided a theoretical explanation to the distributive justice's effect on performance.

Prior research has demonstrated that organizational justice has three distinct dimensions: distributive justice, procedural justice, and interactional justice. First, distributive justice refers to outcomes that are consistent with implicit norms for allocation, such as equity or equality (Adams, 1965). Secondly, procedural justice refers to voice during a decision making process, influencing over the outcome (Thibaut & Walker, 1975). In other words, procedural justice means the fairness of means and procedures by which the decision are made. Thirdly, interactional justice refers to the perceived fairness of interpersonal treatment from those administering the procedures used to arrive at certain outcomes (Bies & Moag, 1986). This type of justice reflects the degree to which people feel

that they are treated with respect and dignity by authority figures (Decramer, Christiaens & Vanderstraeten, 2008).

Distributive justice considers the fact that not all workers are treated alike and that differentiation often exist in the allocation of outcomes in the workplace. Individuals are normally concerned with whether or not they receive their just share. In situations when most qualified person gets promoted, distributive justice is perceived as opposed to when advancement goes to corporate insiders with a political relationship to upper management. Therefore in distributive justice, comparison and the criteria taken as references are important concepts. The person that is taken as a reference point for comparison of earnings and investments is another worker in the organization (Akanbi, Ayobami, Ofoegbu & Onyema, 2013).

Procedural justice is normally looked at under the lens of perceived fairness of procedures used to determine the outcomes received by employees. Employees perceive a particular process to be just when it is applied consistently to all, free of bias, accurate, representative of relevant stakeholders, correctable and consistent with ethical norms. According to Crompanzano *et al.* (2007), just procedures can mitigate the ill effects of unfavorable outcomes. Kim and Mauborgne (2005) explain that procedural justice (a belief that a fair process has been followed) lead to intellectual and emotional recognition. Consequently, such recognition leads to trust and commitment that are essential in improving strategy execution. Conversely, perceived procedural injustice, produces intellectual and emotional indignation, resulting in distrust and resentment (Kim & Mauborgne, 2005, p. 183). Ultimately, this hinders improvement in strategy execution.

Finally, the last aspect of organizational justice concerns how employees perceive the relationship that exists in the organization: interactional justice. This is the people's perceptions of the fairness of the manner in which they are treated by others particularly those in senior positions. Interactional

justice refers to how one person perceives treatment received from another person, particularly when sharing information within the workplace. Colquitt, Scott, Judge and Shaw (2006) explain that there are two aspects of interactional justice: informational justice and interpersonal justice. Informational justice refers to the perception as to whether one is truthful and provides adequate justifications for doing particular things (Farndale *et al.*, 2010:6). Interpersonal justice refers to the perceived respect and dignity with which one treats another (Colquitt *et al.*, 2006).

Goal Setting Theory

Goal-Setting theory revolves around setting the right and most appropriate goals at different levels in an organization which matches with performance management system which brings about objectives and goals which are set for different position. Goal setting theory is a guide for PMS strategy because it enables managers set the right goals and objectives for different positions that are used by employees to guide them on what they are supposed to do in their daily activities.

The theory began with the early work on levels of aspiration developed by Lewin (1967) and has since been primarily developed by Locke (1960). Goal setting involves the conscious process of establishing levels of performance in order to obtain desirable outcomes. This goal setting theory simply states that the source of motivation is the desire and intention to reach a goal (PSU, 2014). If individuals or teams find that their current performance is not achieving desired goals, they typically become motivated to increase effort or change their strategy (Locke & Latham, 2006).

The key points that Locke and Latham (2002) confounded were that motivational goals needed to have the following dimensions: clarity, challenge, commitment, feedback and complexity. Goals need to be clear and measurable such as: my goal is to reduce maintenance downtime by 15 percent. This assists employees know exactly what they are supposed to do and their required outcome. Secondly, goals must be challenging, with

achievement as the final payoff. Easy goals tend to demotivate employees when assigning individual tasks more challenging ones should be considered when coming up with a PMS. Thirdly, employees must feel as part of the goal-setting process to be committed to a clearly relevant goal. For a PMS strategy to be unanimously accepted, employee must be involved in the process of formulation. Next, there must be a program that involves feedback, recognition and progress reports. Lastly, the task must be complex but not overwhelming, with sufficient time and adequate resources available.

Expectancy Valence Theory

Expectancy theory is a cognitive process theory of motivation that is based on the idea that people believe there are relationships between the effort they put forth at work, the performance they achieve from that effort, and the rewards they receive from their effort and performance. In other words, people will be motivated if they believe that strong effort will lead to good performance and good performance will lead to desired rewards. Victor Vroom (1964) was the first to develop an expectancy theory with direct application to work settings, which was later expanded and refined by Porter and Lawler (1968).

Expectancy theory is based on four assumptions (Vroom, 1964). One assumption is that people join organizations with expectations about their needs, motivations, and past experiences. These influence how individuals react to the organization. A second assumption is that an individual's behavior is a result of conscious choice. That is, people are free to choose those behaviors suggested by their own expectancy calculations. A third assumption is that people want different things from the organization (e.g., good salary, job security, advancement, and challenge). A fourth assumption is that people will choose among alternatives so as to optimize outcomes for them personally.

The expectancy theory based on these assumptions has three key elements: expectancy, instrumentality, and valence. A person is motivated

to the degree that he or she believes that (a) effort will lead to acceptable performance (expectancy), (b) performance will be rewarded (instrumentality), and (c) the value of the rewards is highly positive (valence).

Empirical Review

Productivity has been explained in various terms. According to Abramo & D'Angelo (2014), productivity is the ratio of a volume measure of output to a volume of input use. Productivity is the level of efficiency in which inputs of production, such as capital and labour are utilised in an organization to produce a given level of output (OECD, 2001). Productivity may also be considered in terms of labour or employee productivity, capital productivity, among other factor inputs (ILO, 2005). Employee productivity is the actual contribution to the productivity of the organization, in terms of volume or personal capacities and quality of output of an employee (OECD, 2001).

Productivity is often a reflection of particular units of outputs per unit of a specific input (Syverson, 2010). In this regard, labour productivity is considered to be the value that is added by an employee, in an organization to create wealth through the organization's production process or services provision (Abramo & D'Angelo, 2014). Productivity is also seen in terms of volumes produced from particular amount of input during a particular period of time. Other scholars consider labour productivity as the measure of the amount and value of the work done by an employee, in relation to cost of resources used (Hameed, 2011). However, it was critical to evaluate how performance management system affect employee productivity particularly among state corporations. Performance appraisal (PA) is a formal system of review and evaluation of individual or team task performance. A critical point in the definition is the word formal, because in actuality, managers should be reviewing an individual's performance on a continuing basis (Armstrong, 2010). Although it has been argued out that PA influences employee

productivity, limited information was available with regards to the same in KEFRI.

Gupta and Parmar (2018) explored the effect of performance appraisal on employee productivity in an automation company situated in Greater Noida, India. The study used descriptive design on a target population 170 employees. The study found that goals and objectives setting, performance rewards given to employees and performance appraisal feedback all three influenced employee productivity. The study equally found out that set goals motivate employees to achieve target, rewards given to employees for their positive result and feedback help to identify the strength and weaknesses of employee.

Selvarasu and Sastry (2014) explored the relationship between perceptions of performance appraisal fairness and employee engagement in the business organization context in India. The survey found that many companies find it challenging to measure engagement and tie its impact to financial results: fewer than 50 percent of companies said that they are effectively measuring employee engagement against business performance metrics like customer satisfaction or increased market share. A significant gap appeared between the views of executive managers and middle managers in this area. Top executives seemed much more optimistic about the levels of employee engagement in their companies, making them seem out of touch with middle management's sense of their front line workers' engagement.

It is important for organizations to control, restrict and direct employee behaviors, decisions and actions in order to harmonize and coordinate the behaviors towards achievement of individual and organizational goals (Javicijevic, 2012). Furthermore, Wallace (2018) contends that employers today monitor their employees with surveillance equipment, such as closed-circuit television in order to collect data to further their business goals. Indeed Pierce, Snow and Mcfee (2013) argue that workplace monitoring policies

that reduce employee misconduct can benefit both firms and employees. Whereas the use of performance monitoring has been applauded as significant in ensuring that employees spend their valuable time on assigned duties, uncertainties remain noticeable in literature with regard to how it has been used as performance management practice to enhance employee productivity.

Ukko, Karhu and Pekkola (2009) explored the linkage between participation in decision-making and the success of rewarding in Finland. The study was quantitative and the empirical evidence was based on a survey that was carried out in eight companies that operated in the manufacturing industry in 2005. The survey was conducted with all employees of the studied companies. It revealed that the more autonomy in work that people have, the more successful they perceive the motivational influence of rewarding. However, Ukko et al (2009) have not indicated how lack of monitoring (autonomy) lead to employee productivity.

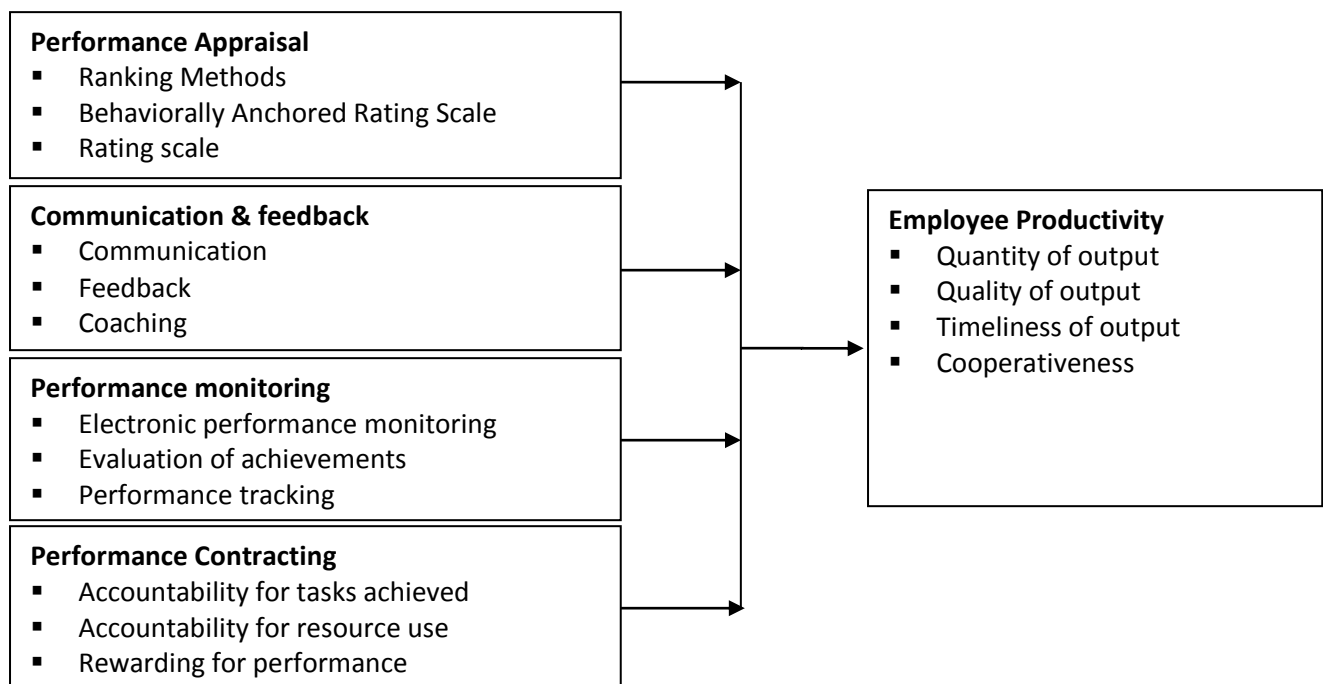
Employees mostly hype performance at the work place when effective communication is at its ultimate. For instance, when the information about an organization's policies and procedures are at its optimum level with openness and accuracy; and also when the information provided is adequate, factual and has good feedback (Neves & Eisenberger, 2012). Three crucial skill areas for managers performing effective performance management of staff members are: communication, feedback, and coaching (Bartz, 2017). Naik (2017) indicates that managers need to provide staff members —as much feedback as possible about how they are doing their job (p. 2). Feedback is the activity of providing information to staff members concerning how their performance is meeting expectations. When feedback indicates that performance is not meeting what is expected, coaching is required to help the staff member make the changes necessary to meet expectations (Murlis, 2017). However, how communication and feedback have been successfully employed as performance management practice to enhance

employee productive is clouded with inconsistencies, based on available documented studies

In Portugal, Neves and Eisenberger (2012) used cross-lagged panel design to examine the temporal relationship between management communication and perceived organizational support (POS), and its consequences for performance. The study assessed management communication and POS two times, separated by a 3-year interval, in a social services organization ($N = 236$). Findings suggest that management communication was positively associated with a temporal change in POS. In addition, it found that management communication affects performance mainly because it signals that the organization cares about the well-being and values the contributions of its employees. However, Neves and Eisenberger (2012) did not directly link management communication with employee productivity, but perceived organizational support. Performance contracts are specific standards for tasks achievement and quantifiable targets required of employees or public officials or managers of agencies or ministries (Armstrong, 2010). The

purposes of PC are to clarify the objectives of the organization and set up performance indicators to be achieved by the employee over a period of time with an aim of reducing costs (Ouma & Karanja, 2018). However, the extent to which performance contracting enhance employee productivity seemed not to have been adequately documented particularly among state corporations such as research institutes like KEFRI.

Diallo (2017) explored on how performance contracting affect employee's motivation in selected public media companies in Senegal (Senegalese Radio Television, and Senegalese Press Agency). Analysis revealed that Performance Contracting is significant on employee's motivation. The regression model revealed that the increase in performance contracting resulted to an increase of employee's motivation. Letangule and Letting (2012) assessed the effects of performance contract on organizational performance in Kenya's Ministry of Education. The findings revealed that performance contracting affected service quality, efficiency, and consistency and employee creativity at the ministry of education to a great extent.



Independent variable

Dependent variable

Figure 1: Conceptual Framework

METHODOLOGY

The study was conducted through correlational research design. According to KEFRI records, there were 200 employees at KEFRI, being 25 HR managers, 70 research and development officers, 60 administration and finance staff, 25 enterprise staffs, and 20 supply chain officers (KEFRI, 2018) who were target population. Simple random sampling technique was used to select the respondents who participated in the study. This study used a questionnaire to collect data which was designed in a likert scale ranging from 1 -5. Data collected was processed and analyzed using descriptive statistics: mean (M), standard deviation (SD) and multiple regressions with the aid of Statistical Package for the Social Sciences (SPSS) tool.

RESULTS

Performance Management Systems and Employee Productivity

The general objective of this study was to establish the effect of performance management systems on employee productivity at KEFRI. Specific objectives

were to establish the effect of performance appraisal on employee productivity; assess the effect of performance monitoring on employee productivity; establish the effect of communication/feedback on employee productivity, and to establish the effect of performance contracting on employee productivity. Measures of central tendency: Mean (M) and Standard Deviation (SD) were used for data analysis and interpreted as: 1.00 – 1.44 (Strongly Disagree), 1.45 – 2.44: (Disagree), 2.45 – 3.44 (Neither agree nor disagree), 3.45 – 4.44 (Agree), 4.45 – 5.00 (Strongly Agree).

Employee productivity

The second section of the study tool sought to establish the level of employee productivity at the Institute. In this regard, respondents were asked to state the level of their agreement with employee productivity indicators presented in the questionnaire. Table 1 presented the Mean (M) and standard deviation (SD) obtained through descriptive statistics from the sampled respondents.

Table 1: Level of Employee Productivity

PM and Employee Productivity	M	SD
Quantity of output		
Employees have continuously increased their personal output	3.46	0.94
All sections/departments have continuously achieved their targets since PM practices were commenced	2.32	1.27
Employees are able to generate more than an hours' worth of productivity of each hour	2.26	1.24
Mean	2.68	1.15
Quality of output		
Products have always met customer satisfaction	3.75	0.91
Employee quality of work has improved overtime	3.82	0.91
Customer complaints have reduced overtime	2.89	1.06
Mean	3.49	0.96
Efficiency in Productivity		
There is sufficient timeliness in completion of set assignments	2.45	1.08
There is improved innovativeness among employees	2.36	1.09
There is tremendous reduction in wastages among employees	3.53	1.04
Mean	2.78	1.07
Overall Mean	3.03	1.06

Table 1 illustrated that the sampled respondents neither agreed nor disagreed (M=3.03; SD=1.06)

that the indicators of employee productivity presented in the study questionnaire had been

achieved by the organization, thereby implying that there exist only a moderate extent or level of achievement. The respondents neither agreed nor agreed that quantity of output (M=2.68; SD=1.15) as well as efficiency in productivity (M=2.94; SD=1.06) has been achieved by the research institute. This also tends to imply that these two indicators have been achieved to a moderate level. On the other hand, the respondents agreed that quality of products (M=3.49; SD=0.96) has been achieved.

The moderate productivity deduced from Table 1 suggested that there were inadequacies with regards to goal setting, thus negating the theory of goal-setting. According to Locke and Latham (2006), goal-setting involves setting the right and most appropriate goals at different levels in an organization which brings about objectives and goals for different position. It involves the conscious process of establishing levels of performance in order to obtain desirable outcomes. Moreover, the findings contradicted observations made by Mokaya *et al* (2013) that employees determine how

efficiently other resources in the organization are optimally utilised. Accordingly, the findings go against revelations made in Onyije (2015) that high productivity levels translate into lower unit costs thereby constituting a major driver of success in the organization. The moderate performance identified could therefore be an indication that employees are not optimally utilising resources of the organization on one hand, and that goals are not sufficiently set to meet resources and capabilities of the employees, on the other hand.

Performance Appraisal and Employee Productivity

The first objective of the study instrument sought to establish the effect of performance appraisal on employee productivity at KEFRI. In this regard, respondents were asked to state their level of agreement with regard to various applicable performance appraisal methods presented in the questionnaire as: Strongly Agree (5); Agree (4); Neutral (3); Disagree (2); Strongly Disagree (1). The Mean (M) of the items as well as standard deviation (SD) obtained through descriptive statistics is presented in Table 2.

Table 2: Effect of Performance Appraisal on Employee Productivity

Effect of performance appraisal on employee productivity	M	SD
Ranking Methods		
The performance rating scale is fairly assigned	3.87	0.92
The differentiation of rating scale is clear and concise	3.76	0.94
The performance manager is impartial when assigning rating scales	3.95	0.87
Mean	3.86	0.91
Behavioural Anchoring Scale		
The organization is keen on the number of retained customers	3.88	0.92
The organization is keen on the amount of periodic sales made per employee	3.92	0.89
The organisation takes keen interest on employee competencies	3.52	0.97
Mean	3.77	0.93
Paired Ranking		
I am happy with how my performance is compared with colleagues in the same department	2.58	1.31
Performance of our department is fairly compared with those of other departments	2.67	1.29
My performance is fairly compared with performance of individuals holding similar positions in the industry	3.05	1.15
Mean	2.77	1.23
Overall Mean	3.47	1.02

According to Table 2, performance appraisal (M=3.47; SD=1.02) have affected employee productivity at the research institute (KEFRI). Based on the mean rating interpretation, the sampled respondents seemed to be in agreement that performance appraisal as practiced at the institute have affected productivity of employees over the years. They specifically agreed that ranking methods (M=3.86; SD=0.91) and behavioural anchoring scale (M=3.77; SD=0.93) have over the years affected employee productivity in the organization. However, the respondents disagreed that paired ranking (M=2.77; SD=1.23) have affected employee productivity at KEFRI.

Thus, ranking methods such as fairness in assigning ranking scales (M=3.87; SD=0.92), clarity and conciseness in rating scale differentiation (M=3.76; SD=0.94), and impartiality during assignment of rating scales (M=3.95; SD=0.87) were regarded to be effective in enhancing employee productivity. Similarly, behavioural anchoring practices such as keenness in the number of retained customers (M=3.88; SD=0.92), keenness on the amount of periodic sales made per employee (M=3.92; SD=0.89), and taking keen interest on employee competencies (M=3.52; SD=0.97) have been viewed as being effective in catalysing employee productivity. Fairness and impartiality in assigning scales as well as rating

seem to be viewed by employee of the research institute under the lenses of justice. This seems to be in support of the organizational justice theory which articulates perception of fairness within the setting of a business entity (Greenberg, 1990). Indeed, the effort directed at job performance by an employee can be altered in situations where an individual perceives the outcome/input ratio to be unjust (Adams, 1966).

Findings revealed in Table 2 tend to pinpoint at the positivity with which employees regard fairness and clarity in assigning as well as rewarding duties and competencies respectively. Similar views have been reflected in several studies. For instance, Agyare et al (2016) found in Ghana that clarity of performance appraisal purpose and employee involvement in the formulation of appraisal tools are positively related to employee commitment. These findings also concur with Sharma and Rao (2018) who found that performance appraisal practices positively affect employee efficiency among steel companies of India.

Through Pearson's Correlations, the researcher was also able to correlate the mean of components of employee productivity and those of performance appraisal. Table 3 presented result of Pearson's correlations between group performance appraisal and employee productivity.

Table 3: Correlations between performance appraisal and employee productivity

		Employee productivity	Performance appraisal
Employee productivity	Pearson Correlation	1	.137**
	Sig. (2-tailed)		.001
	N	121	121
Performance appraisal	Pearson Correlation	.137**	1
	Sig. (2-tailed)	.001	
	N	121	121

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

Table 3 illustrated Pearson correlation between performance appraisal and employee productivity is .137**, $p < 0.01$ which is positive. It showed that there is a positive relationship between performance appraisal and employee productivity.

This relationship is significant at 0.01 level (2-tailed) $p < 0.01$. This implies that with improved application of performance appraisal practices by supervisors, there will be an improvement in employee productivity at KEFRI.

Performance Monitoring and Employee Productivity

The second objective of the study sought to establish the effect of performance monitoring on employee productivity at the organization (KEFRI). The sampled respondents were thus asked to state their level of agreement with regard to various

applicable performance monitoring practices presented in the questionnaire as: Strongly Agree (5); Agree (4); Neutral (3); Disagree (2); Strongly Disagree (1). The Mean (*M*) of the items as well as standard deviation (*SD*) obtained through descriptive statistics is presented in Table 4.

Table 4: Effect of Performance Monitoring on Employee Productivity

Effect of Performance monitoring on employee productivity	M	SD
Electronic performance Monitoring		
We are pleased with CCTV monitoring on how we spend our work time	2.21	1.12
I am pleased with the monitoring installed in the computers	2.25	1.11
I am not disturbed by the trackings in the intranet systems	2.19	1.16
Mean	2.22	1.13
Performance tracking		
I am pleased with how the supervisor monitors my task performance	2.49	1.08
There is a clearly set guidelines for performance monitoring	3.02	0.98
I am pleased with the clarity of performance monitoring procedure set by the organization	2.92	1.08
Mean	2.81	1.05
Evaluation of achievement		
Performance achievement is often communicated to me promptly	3.58	0.87
Departmental performance are often pinned on the notice boards	3.89	0.82
Target achievement are often fairly reported	3.78	0.84
Mean	3.75	0.84
Overall Mean	2.93	1.01

Table 4 indicated that the sampled respondents neither agreed nor disagreed ($M=2.93$; $SD=1.01$) that performance monitoring practices have effect on employee productivity at the research institute. The respondents disagreed that electronic performance monitoring ($M=2.22$; $SD=1.13$) as practiced in the organization have had effect on enhancing employee productivity. Equally, the respondents neither agreed nor disagreed that performance tracking ($M=2.81$; $SD=1.05$) practices as employed by KEFRI have had effect on enhancing employee productivity. However, the respondents agreed that evaluation of performance achievements ($M=3.75$; $SD=0.84$) practices in the research institute have had effect on enhancing employee productivity. These practices include promptness in communicating performance achievement ($M=3.58$; $SD=0.87$), pinning on notice

boards of departmental performances ($M=3.89$; $SD=0.82$), and fairness in reporting target achievements ($M=3.78$; $SD=0.84$). These findings tend to suggest that while employees dislike being tracked and followed, they appreciate putting open their achievements.

Findings in Table 4 emphasized the fact perception of openness in declaring employee achievements is desired more than putting up measures to track how they are carrying out their duties. This seemed to be in line with both interactional justice (Crompanzano *et al*, 2007) and procedural justice (Akanbi *et al*, 2013). The former reflects the degree to which people feel that they are treated with respect and dignity by authority figures (Decramer *et al*, 2008) while the latter takes into consideration perceived fairness of procedures used to determine

the outcomes received by employees. Electronic performance monitoring including the use of CCTV seems to instil the feeling of disrespect among employees. Similarly, promptness in communicating performance as well as pinning the same on notice boards portrays recognition, trust and commitment to the employee.

It should be noted that findings expose dislike among employees at KEFRI with monitoring practices such as use of CCTV seem to contrast studies by Pierce et al (2013), Ahmed and Magdi (2017), Gichuhi et al (2016) and Wanjala et al (2017). In a study that analysed how firm investments in technology-based employee monitoring impact on misconduct and productivity in USA, Pierce et al (2013) established existence in reduced theft and improved productivity. Equally, Ahmed and Magdi (2017) found a significant increase in performance in a study that explored the effect of using information technology on the

performance of employees among selected organization in Egypt. Similarly, Gichuhi et al (2016) found a a positive correlation between CCTV monitoring and employees' engagement in a study that analysed the relationship between CCTV surveillance and employees' engagement among commercial banks in Kenya. Wanjala et al (2017) also found that monitoring techniques have significant affect on project performance during an investigation of the influence of monitoring techniques on project performance of Kenyan State Corporations.

The researcher further employed Pearson's correlations to compare the relationship between the mean of components of employee productivity and those of performance monitoring. Table 5 presents result of Pearson's correlations between performance monitoring and employee productivity.

Table 5: Correlations between performance Monitoring and Employee Productivity

		Employee productivity	Performance monitoring
Employee Productivity	Pearson Correlation	1	.074 **
	Sig. (2-tailed)		.001
	N	121	121
Performance monitoring	Pearson Correlation	.074 **	1
	Sig. (2-tailed)	.001	
	N	121	121

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

Table 5 illustrated Pearson's correlation between performance monitoring and employee productivity is 0.074**, $p < 0.01$: which is weak but positive. It shows that there is a weak and positive relationship between performance monitoring and employee productivity. The correlation is significant at 0.01 level (2-tailed) $p < 0.01$. This tends to imply that with improvement in performance monitoring stands to generate improved productivity among employees at the organization.

Communication/Feedback and Employee Productivity

The third objective of the study sought to establish the effect of communication/feedback on employee productivity at the organization (KEFRI). In this regard, respondents were asked to state their level of agreement with regard to various communication/feedback practices presented in the questionnaire as: Strongly Agree (5); Agree (4); Neutral (3); Disagree (2); Strongly Disagree (1). The Mean (M) of the items as well as standard deviation (SD) obtained through descriptive statistics is presented in Table 6.

Table 6: Effect of Communication/Feedback on Employee Productivity

Effect of Communication/feedback on Employee Productivity	1	2
Communication of performance requirements		
My supervisor often reports my performance fairly	4.12	0.78
Evaluation report from the supervisor is often communicated to me first before anyone else	4.01	0.81
The supervisor uses the evaluation report to design training and development requirements for me	3.34	0.98
Mean	3.82	0.86
Feedback on Performance		
I often discuss my performance with my supervisor before it is reported	3.78	0.89
My performance is always compared with the departmental target	3.69	0.94
My performance is always compared with other staff mates	3.78	0.91
Mean	3.75	0.91
Coaching		
I am pleased by instructions that I receive from my supervisor	3.54	0.95
I am normally assigned to a competent instructor during task performance	3.49	0.97
Mentorship programmes are often satisfactory	2.29	1.25
Mean	3.11	1.06
Overall Mean	3.56	0.94

N=121

Table 6 illustrated that the sampled respondents agreed that communication/feedback practices (M=3.56; SD=0.94) employed by the research institute has had effect on employee productivity. The respondents indicate that practices such as communication of performance requirements (M=3.82; SD=0.86) and feedback on performance (M=3.75; SD=0.91) have had immense effect on employee productivity at KEFRI. However, they neither agreed or disagreed that coaching (M=3.11; SD=1.06) as practiced by the institute has had effect on employee productivity. This tends to suggest that coaching practices might have only contributed to employee productivity to a moderate level.

It is sufficiently illustrated in Table 6 that communication of performance requirements practices such as fair reporting of employee's performance by the supervisor (M=4.12; SD=0.78), and that communication of evaluation report to the employee first before any body else (M=4.01; SD=0.81). They however neither agreed nor disagreed that use of evaluation report to design training and development requirements for employees (M=3.34; SD=0.98). Similarly, respondents agreed that practices associated with

feedback on performance such as an employee discussing his/her performance with the supervisor before the same is reported (M=3.78; SD=0.89), comparing of an employee's performance with the departmental budget (M=3.69; SD=0.94), and comparing of an employee's performance with that of staff mate (M=3.78; SD=0.91) have had effect on employee productivity.

Open discussions involving an employee and his/her supervisor is closely linked with goal-setting theory articulated by Locke and Latham (2006). The theory emphasizes a conscious process of establishing levels of performance in order to obtain desirable outcomes, ostensibly as a source of motivation (PSU, 2014). Furthermore, fair reporting of an employee's performance as a source of spurring worker productivity ought to be looked at under the lenses of interactional justice which articulates the aspects of communication process between the source and the recipient of justice, such as politeness, honesty, and respect. Colquitt et al (2006) explain that interactional justice involves informational justice and interpersonal justice. The former refers to the perception as to whether one is truthful and provides adequate justifications for doing particular things (Farndale *et al*, 2010:6),

while the latter refers to the perceived respect and dignity with which one treats another (Colquitt et al, 2006).

In Table 6, respondents seem to desire close working relationship between the supervisor and the subordinate. The fact that performance communication and feedback play double role of task clarification and provision of task accomplishment information concurs with Neves and Eisenberger (2012) who found that it affects performance since it signals care, the well-being, and values the contributions of employees in a study done in Portugal. Effective communication and workers' performance, productivity and commitment was also confirmed by Asamu (2014)

in a study that examined the relationship between communication and workers' performance in Nigeria. However, findings in Table 6 seem to contrast Longweni and Kroon (2018) which concluded that managers' subordinates' perception of the effectiveness of their communication varies according to varying educational levels in a study done in South Africa.

The researcher was also able to correlate the mean of components of employee productivity and those of communication/feedback. Table 7 presented result of Pearson's correlations between communication/feedback and employee productivity.

Table 7: Correlations between communication/feedback and Employee Productivity

		Employee productivity	Communication/feedback
Employee Performance	Pearson Correlation	1	.874**
	Sig. (2-tailed)		.001
	N	121	121
Communication/feedback	Pearson Correlation	.874**	1
	Sig. (2-tailed)	.001	
	N	121	121

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

Table 7 indicated that Pearson's correlation between communication/feedback and employee productivity is 0.874**, $p < 0.01$: which is strong and positive. It shows that a strong and positive relationship exists between communication/feedback and employee productivity. The correlation is significant at 0.01 level (2-tailed) $p < 0.01$. This finding implies that improvement in communication/feedback in the organization stands a long way in spurring employee productivity.

The fourth objective of the study assessed the effect of performance contracting on employee productivity at KEFRI. In this regard, respondents were asked to state their level of agreement with regards to various applicable performance contracting practices presented in the questionnaire as: Strongly Agree (5); Agree (4); Neutral (3); Disagree (2); Strongly Disagree (1). The Mean (M) of the items as well as standard deviation (SD) obtained through descriptive statistics is presented in Table 8.

Performance Contracting and Employee Productivity

Table 8: Effect of Performance Contracting on Employee Productivity

Effect of performance contracting on employee productivity	M	SD
Accountability for tasks achieved		
Set targets are always achievable by each employee	3.01	0.95
I am satisfied with the tasks assigned to me to be achieved	2.45	1.07
I am pleased with period set for attaining set targets by the manager	2.64	1.03

Mean	2.7	1.02
Accountability for Resource use		
Each employee is availed with adequate resources for target achievement	2.68	1.04
Adequate resources are often available at the department for achieving set targets	2.83	1.01
I am pleased with the responsibility given to me over resource use	3.65	0.96
Mean	3.05	1.00
Rewarding Performance		
I am pleased with rewards provided for target achievement	2.48	1.07
Promotions pegged to performance often lead to improved employee productivity in our organization	3.59	0.94
I am pleased with pay for performance policy in the organization	3.41	0.98
Mean	3.16	1.00
Overall Mean	2.97	1.01

Table 8 illustrated that the sampled respondents neither agreed nor disagreed that performance contracting (M=2.97; SD=1.01) as applied in the organization has had effect in enhancing employee productivity. They neither agreed nor disagreed that aspects of performance contracting such as accountability for tasks achieved (M=2.7; SD=1.02), accountability for resource use (M=3.05; SD=1.00) and rewarding performance (M=3.16; SD=1.00) have had effect on employee productivity enhancement. They were neither agreeing nor disagreeing with aspects of accountability for tasks achieved such as frequent achievement of set targets by each employee (M=3.01; SD=0.95), satisfaction with tasks assigned to employees to be achieved (M=2.45; SD=1.07), and being contented with the period set for attainment of set targets by the manager (M=2.64; SD=1.03). This revelation tends to suggest that recognition of these aspects of accountability of tasks achievement have only affected employee productivity to a moderate extent.

The respondents were also neither agreeing nor disagreeing that aspects of resource accountability like availing adequate resources to each employee for target achievement (M=2.68; SD=1.04) and availing adequate resources at the department for achieving set targets (M=2.83; SD=1.01) have had effect on employee productivity enhancement. They were however in agreement with the fact that employees at the research institute are pleased

with the responsibilities given to them over resource use (M=3.65; SD=0.96) has been effective in improving employee productivity. This finding seems to imply that employee productivity at the organization can be achieved should adequate resources be availed to departments as well as individual worker.

Similarly, the sampled respondents neither agreed nor disagreed that aspects of rewarding of performance such as employees being contented with rewards provided for target achievement (M=2.48; SD=1.07) as well as being contented with pay for performance policy in the organization (M=3.41; SD=0.98) have been effective in enhancing employee productivity at the research institute. However, promotion pegged to performance was accepted by the sampled respondents (M=3.59; SD=0.94) as having resulted into employee productivity in the organization. This tends to suggest that other than performance based promotion, workers at the research institute viewed rewarding of performance practices as being ineffective in enhancing employee productivity.

Going by findings, it can be deduced that employees at the research institute were not viewing rewards for their productivity as being commensurate to the efforts they exert. Looked at under the lenses of expectancy theory, workers at KEFRI would be motivated to exert more effort towards enhancement of productivity if they

believe that this would lead to good performance and consequently desired rewards (Vroom, 1964). Employee productivity is thus a product of rewards based on performance from efforts exerted by an employee (Porter & Lawler, 1968).

Performance contracting empowers, motivates and rewards employees with regards to their efforts and performances. According to the results, empowering employees through provision of adequate resources and rewarding them according to their achievement remains a panacea for improved productivity. This revelation seems to concur with several studies (Kago, 2014; Kemboi, 2015; Nganyi et al, 2014; Nyaigo et al, 2013). Kago (2014) found that performance contracting

influenced both enterprise and managerial performance at the State Corporations in Kenya while Kemboi (2015) revealed a positive relationship between employee commitment, performance contracting and employee productivity among vocational training centers in Kenya. Similarly, Nyaigo et al (2013) revealed that Performance Contracting is an effective tool in the execution of operations of the Ministry of Housing in Kenya.

The researcher was also able to correlate the mean of components of employee productivity and those of performance contracting. Table 9 presents result of Pearson's correlations between performance contracting and employee productivity.

Table 9: Correlations between performance contracting and Employee productivity

		Employee productivity	Performance contracting
Employee performance	Pearson Correlation	1	.116**
	Sig. (2-tailed)		.001
	N	121	121
Performance contracting	Pearson Correlation	.116**	1
	Sig. (2-tailed)	.001	
	N	121	121

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

Table 9 illustrated Pearson correlation between the performance contracting and employee productivity is .116**, $p < 0.01$ which is low and positive. It shows that there is a weak but positive relationship between performance contracting and employee productivity at KEFRI. The correlation is significant at 0.01 level (2-tailed) $p < 0.01$. This implies that a lot of emphasis needs to be put in the part of performance contracting with an aim of spurring employee productivity in the organization.

Relationship between Performance Management Systems and Employee Productivity

To determine the relationship between performance management systems, the researchers first conducted descriptive to establish the extent to which employees view PM systems practices with regards to their contribution towards employee productivity in the organization. Table 10 presents the results of the descriptive analysis.

Table 10: Descriptive analyses of PM Systems and employee productivity

	N	Minimum	Maximum	Mean	Std. Deviation
Employee Productivity	121	1.00	5.00	3.03	1.06
Performance appraisal	121	1.00	5.00	3.47	1.02
Performance monitoring	121	1.00	5.00	2.93	1.01
Communication/feedback	121	1.00	5.00	3.56	0.94
Performance contracting	121	1.00	5.00	2.97	1.01
Valid N (list wise)	121				

Table 10 indicated that the sampled respondents neither agreed nor disagreed that employee productivity has been achieved to a large extent by the organization (M=2.94; SD=1.06). With regards to performance appraisal, the respondents agreed (M=3.47; SD=1.02) that the practice has contributed to employee productivity to a large extent. The respondents additionally agreed nor disagreed that: performance monitoring (M=2.93; SD=1.01), and performance contracting (M=2.97; SD=1.01) have contributed to employee productivity to a large extent. However, the sampled employees agreed that communication/feedback of performance to employees (M=3.56; SD=0.94) has contributed to employee productivity in the organization.

The components of performance management system seem not to have been sufficiently employed by the management of KEFRI. This omission seems to overlook the tenets of organizational theory (Greenberg, 1982) which looks at perceptions of fairness in three distinct dimensions: distributive justice, procedural justice, and interactional justice. Distributive justice considers the fact that not all workers are treated alike and that differentiation often exist in the allocation of outcomes in the workplace (Decramer et al, 2008). Individuals are normally concerned with whether or not they receive their just share (Akanbi et al, 2013). On the other hand, procedural justice considers perceived fairness of procedures used to determine the outcomes received by employees (Crompanzano et al, 2007). Employees perceive a particular process to be just when it is

applied consistently to all, free of bias, accurate, representative of relevant stakeholders, correctable and consistent with ethical norms (Kim & Mauborgne, 2005). Finally, the organizational justice theory tenet that seems to be overlooked was interactional justice: how employees perceive the relationship that exists in the organization. This is the people's perceptions of the fairness of the manner in which they are treated by those in senior positions, particularly when sharing information related to work performance (Colquitt et al, 2006).

Findings in Table 10 cast aspersions on the KEFRI management's capability of using performance systems fairly for enhancing employee productivity. Indeed research in India (Gupta & Parmar, 2018) has established that goals and objectives setting, performance rewards given to employees and performance appraisal feedback all three, if effectively employed, influence employee productivity. Similarly, performance appraisal process with fairly set targets for all the staff ensures that the process achieve its objective in evaluating individual employee's performance (Munguti & Kanyanjua, 2017).

Hypothesis Testing

H0₁: Performance appraisal has no significant effect on employee productivity in KEFRI. To determine the relationship between performance appraisal and employee productivity at the organization, linear regression analysis was run. Table 11 presents linear regression analysis between performance appraisal and productivity.

Table 11: Linear Regression for performance appraisal and Employee productivity

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1.023	.126		8.119	.000
1	Performance appraisal	2.228	.302	.137	7.377	.001

Dependent Variable: **Employee Productivity**

Table 11 present the actual effects of the coefficient (performance appraisal) on the dependent variable (employee productivity) at the organization. The unstandardized beta for

performance appraisal was 2.228. This implied that for every unit improvement in the performance appraisal practices, there would be 2.228 unit improvements in employee productivity at KEFRI.

This shows that performance appraisal as a practice is a significant and positive predictor of employee productivity ($\beta=2.228$; $p=0.001$). The regression equation $Y = \beta_0 + \beta_1X_1 + \epsilon$, with the constant (β_0) being 1.023, the coefficient can be plugged into the formula to predict employee productivity by employing performance appraisal at KEFRI as:

$$Y = \beta_0 + \beta_1X_1$$

$$Y = 1.023 + 2.228X_1$$

The direction of the relationship (whether negative or positive) between performance appraisal and employee productivity was also analysed. Table 12 presented the model summary of the analysis.

Table 12: Model Summary for Performance Appraisal

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.818 ^a	.669	.665	.3627	.664	16.377	1

a. Predictors: (Constant), Performance appraisal

Table 12 illustrated the “goodness fit” of the model. The R- square of .669 indicated that performance appraisal causes 66.9% change in employee productivity at KEFRI. This implied that the relationship between performance appraisal and employee productivity at the organization is positive, and performance appraisal explain 66.9% change in employee productivity. The remaining 33.51% of change in employee productivity at the organization is due to other factors other than performance appraisal practices.

H0₂: Performance monitoring has no significant effect on employee productivity at KEFRI. The second hypothesis was meant to test the relationship between performance monitoring and employee productivity at the research organization. The actual effect of the coefficient (performance monitoring) on employee productivity at the organization was computed using linear regression analysis. Table 13 presented the linear regression analysis.

Table 13: Linear Regression Analysis for Performance Monitoring and employee Productivity

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.358	.179		18.760	.000
	Performance Monitoring	1.162	.103	.074	11.282	.000

Dependent Variable: **Employee productivity**

According to Table 13, the unstandardized beta for performance monitoring is 1.162. This implied that for every unit improvement in performance monitoring, there would be 1.162 unit improvements in employee productivity at the research institute. The regression equation $Y = \beta_0 + \beta_2X_2 + \epsilon$, with the constant (β_0) being 3.358, the coefficient can be plugged into the formula to predict employee productivity based on employment of performance monitoring practices at the organization as:

$$Y = \beta_0 + \beta_2X_2$$

$$\text{Employee productivity} = 3.358 + 1.162X_2$$

The direction of the relationship (whether negative or positive) between performance monitoring and employee productivity at the research institute was also analysed. Table 14 presents the model summary of the relationship between performance monitoring and employee productivity at KEFRI.

Table 14: Model Summary for Performance Monitoring and Employee Productivity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.373 ^a	.139	.137	.32397	.138	11.241	1

a. Predictors: (Constant), Performance Monitoring

Table 14 illustrated that R² is .139 (R² = .139; P < 0.05). This illustrated that the direction of the relationship is positive and significant; the contribution of performance monitoring towards employee productivity is positive and significant, hence the model was a good predictor of the variation in the dependent variable. This finding implies that performance monitoring explain 13.9% of variation in employee productivity at the research institute. Consequently, 86.1% of variation in employee performance at the institute is explained by other variables other than interactions among informal workgroup members.

H0₃: There is no significant effect of communication/feedback on employee productivity at KEFRI. The third hypothesis was meant to test the relationship between communication/feedback and employee productivity at the research institute (KEFRI). The actual influence of the coefficient (communication/feedback) on employee productivity at the organization was computed using linear regression analysis. Table 15 presents the linear regression analysis.

Table 15: Linear Regression Analysis for communication and Employee Productivity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.731	.214		12.762	.000
	Communication/feedback	.931	.076	.874	12.25	.000

Dependent Variable: **Employee Productivity**

According to Table 15, the unstandardized beta for communication/feedback is .931. Accordingly, for every unit improvement in communication/feedback practices, there would be .931 unit improvements in employee productivity at the research institute (KEFRI). The regression equation $Y = \beta_0 + \beta_3 X_3 + \epsilon$, with the constant (β_0) being 2.731, the coefficient can be plugged into the regression formula to predict employee productivity at the organization based on utilization of communication/feedback practices as:

$$Y = \beta_0 + \beta_3 X_3$$

$$\text{Employee productivity} = 2.731 + .931 X_3$$

The direction of the relationship (negative or positive) between communication/feedback and employee productivity at the research institute was also analysed. Table 16 presents the model summary of the relationship between communication/feedback and employee productivity at the organization.

Table 16: Model Summary for Communication/feedback and Employee Productivity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.864 ^a	.746	.743	.10621	.745	14.649	1

a. Predictors: (Constant), communication/feedback

Table 16 illustrated that R^2 is .746 ($R^2 = .746$; $P < 0.05$). The direction of the relationship between communication/feedback and employee productivity is positive and significant. This is an indication that the model was a good predictor of the variation in the dependent variable. This finding suggests that communication/feedback explains 74.6% of variation in employee productivity at the research institute. Consequently, 25.4% of variation in employee productivity at the organization could be explained by other variables other than PM practices related to

communication/feedback by the management of KEFRI.

H0₃: There is no significant effect of performance contracting on employee productivity at KEFRI. The fourth hypothesis aimed at testing the relationship between performance contracting and employee productivity at the research institute. The actual influence of the coefficient (performance contracting) on employee productivity at the institute was computed using linear regression analysis. Table 17 presented the linear regression analysis.

Table 17: Linear Regression Analysis for Performance Contracting and Employee Productivity

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.728	.142		12.169	.000
Performance Contracting	.317	.031	.116	10.226	.000

Dependent Variable: **Employee Productivity**

Table 17 indicated that the unstandardized beta for performance contracting is .317. This implied that for every unit improvement in performance contracting practices by the management of the research institute, there would be .317 unit improvements in employee productivity. The regression equation $Y = \beta_0 + \beta_4 X_4 + \epsilon$, with the constant (β_0) being 1.728, the coefficient could be plugged into the regression formula to predict employee productivity at the organization using performance contracting as:

$$Y = \beta_0 + \beta_4 X_4$$

$$\text{Employee productivity} = 1.728 + .317 X_4$$

The direction of the relationship (whether negative or positive) between performance contracting and employee productivity at KEFRI was also analysed. Table 18 presented the model summary of the relationship between performance contracting and employee productivity at the organization.

Table 18: Model Summary for Performance Contracting and Employee Productivity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.462 ^a	.213	.211	.01341	.212	11.312	1

a. Predictors: (Constant), Performance Contracting

Table 18 illustrated that R^2 is .213 ($R^2 = .213$; $P < 0.05$). The direction of the relationship between performance contracting and employee productivity is positive and significant. This provided an indication that the model was a good predictor of the variation in the dependent variable.

This finding implied that performance contracting explain 21.3% of variation in employee productivity at the research institute. Similarly, 78.7% of variation in employee productivity is explained by other variables other than performance contracting practices undertaken by the management of KEFRI.

Model Summary

To determine the nature and direction of the relationship that exists between performance management system: performance appraisal, performance monitoring, communication/feedback, performance contracting and employee productivity at the research institute, the researcher proceeded to conduct stepwise multiple

regression analysis. First an analysis was done to check how well the model ($Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$) could predict the effect of performance management system on employee productivity at KEFRI. This was carried out using analysis of variance (ANOVA). Table 19 presents the result of ANOVA.

Table 19: The Analysis of Variance Result

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.765	4	2.266	3.495	0.000 ^b
	Residual	119.38	121	1.014		
	Total	121.145	125			

a. Dependent Variable: Employee Productivity

b. Predictor/Constant variables: performance appraisal, performance monitoring, communication/feedback, performance contracting

Table 19 illustrated that the performance management system under study were significant predictors of employee productivity { $F_{(1, 121)} = 4.495$, $P < 0.05$ }. The significance value of F in this case is 0.000, which is less than 0.05 ($P < 0.05$). Thus, performance appraisal, performance monitoring,

communication/feedback, and performance contracting were significant in explaining the variation in employee productivity at KEFRI. The relative importance of each coefficient of performance management system in predicting employee productivity is presented in Table 20.

Table 20: Model of prediction using Multiple Regressions

Mode 1	R	R Square	Std Error of the Estimate	R Square Change	Change Statistics			
					F Change	df 1	df 2	Sig F Change
1	.6646 ^a	.4418	.1318	.44018	12.516	4	116	.000

a. Predictors: (Constant), performance appraisal, performance monitoring, communication/feedback, performance contracting

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	2.218	.165			13.442	.000
	Performance appraisal	2.228	.302	.137		7.377	.001
	Performance monitoring	1.162	.103	.074		11.282	.000
	Communication/feedback	.931	.076	.874		12.25	.000
	Performance contracting	.317	.031	.116		10.226	.000

a. Dependent Variable: Employee Productivity

Findings from the model in Table 20 presented the actual influence of the coefficients of the independent variable (PM Systems) on the

dependent variable (employee productivity) among employees of KEFRI. The unstandardized beta for performance appraisal is 2.228. This implied that for

every unit improvement in the performance appraisal practices, there would be 2.228 unit improvements in employee productivity at KEFRI. Similarly, the unstandardized beta for performance monitoring is 1.162. This implied that for every unit improvement in performance monitoring, there would be 1.162 unit improvements in employee productivity at the research institute. Equally, the unstandardized beta for communication/feedback is .931, implying that for every unit improvement in communication/feedback practices; there would be .931 unit improvements in employee productivity at the research institute (KEFRI). Finally, the unstandardized beta for performance contracting is .317. This implied that for every unit improvement in performance contracting practices by the management of the research institute, there would be .317 unit improvements in employee productivity.

The regression equation $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$, with the constant (β_0) being 2.218, the coefficient can be plugged into the formula to predict employee productivity at KEFRI as:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon,$$

$$Y = 2.218 + (2.228) X_1 + (1.162) X_2 + (.932) X_3 + (.317) X_4$$

Findings from the model illustrated that R^2 is .4418 ($R^2 = .44.8$; $P < 0.05$). This implied that an average of 44.18% of the observed variance in employee productivity is predicted by the four variables (performance appraisal, performance monitoring, communication/feedback, and performance contracting) at the research institute. Thus, 55.82% of variation in employee productivity at the research institute could be explained by other factors not forming part of the performance management practices under this study.

The four variables for performance management have significant effect on employee productivity at the research institute when fairly applied and subtle cohesion and coordination amongst implementers. Fairness in implementation of PM practices is in line with the theory of organizational justice espoused

by Greenberg (1982). The management of employees at KEFRI must ensure that distributive justice, procedural justice, and interactional justice are observed strictly during implementation of PM practices and processes (Colquitt et al, 2006; Kim & Mauborgne, 2005). In the same vein, performance reports should be transparently presented and discussed with the employee, and the employee should be involved in all processes of performance appraisal, monitoring, communication/feedback, and contracting.

Researchers (Abramo & D'Angelo, 2014; Haenisch, 2012; Jorgenson *et al*, 2014; Mokaya *et al*, 2013) have confirmed that organizational performance is directly associated with employee efforts. Performance management systems including performance appraisal, monitoring, communication/feedback, and contracting indicated have been articulated as enhancing increased employee efforts and consequently improved productivity. Studies (Agyare et al, 2016; Sharma & Rao, 2018; Zayum et al, 2017) have confirmed that performance appraisal positively and significantly affects employee productivity. Similarly, performance monitoring including use of CCTV has been found to have significant effect on employee productivity by many researchers (Ahmed & Magdi, 2017; Gichuhi et al, 2016; Wanjala et al, 2017). Positive and significant effect of communication and feedback on employee productivity has also been confirmed by several studies (Muriithi, 2016; Nebo et al, 2015; Njiru, 2015; Otoo, 2015). With regards to performance contracting, findings seem to concur with studies by Diallo (2017), Letangule and Letting (2012), Nyaigo *et al* (2013) and Kemboi (2015), among others.

CONCLUSIONS AND RECOMMENDATIONS

The study concluded that performance appraisal have affected employee productivity at the research institute (KEFRI). Ranking methods and behavioural anchoring scale have over the years affected employee productivity in the organization. However, paired ranking has had limited effect on employee productivity at KEFRI. It is further

concluded that performance appraisal and employee productivity have a positive and significant relationship. The study also concludes that performance appraisal causes 66.5% change in employee productivity at KEFRI.

Based on the second objective, the study concluded that performance monitoring has a moderate effect on employee productivity at KEFRI. It is also concluded that electronic performance monitoring and performance tracking both have moderate effects on employee productivity at the research institute. However, evaluation of performance achievements practices has high effect on employee productivity in the organization. It is additionally concluded that performance monitoring has a weak but positive and significant relationship with employee productivity at KEFRI

For the third objective, the study concluded that communication/feedback highly affects employee productivity at the research institute. Additionally, it is concluded that practices such as communication of performance requirements and feedback on performance have had high effects on employee productivity at KEFRI. However, coaching as practiced by the institute has moderate effect on employee productivity. It is further concluded that a communication/feedback is a significant predictor of employee productivity, and has a strong and positive relationship with the same.

For the last objective, the study concluded that performance contracting as applied in the organization has a moderate effect on employee productivity. Similarly, it is concluded that accountability for tasks achieved, accountability for resource use, and rewarding performance all have moderate effect on employee productivity. The study further concludes that performance contracting has a weak but positive and significant relationship with employee productivity

Based on the drawn conclusions, the study provides recommendations for improving employee productivity as well as for new areas where further research should be conducted. In order to improve

employee productivity using performance management system, the study offers the following recommendations:

- The study has established that performance appraisal has affected employee productivity at the research institute (KEFRI), and that only paired ranking has had limited effect on employee productivity. In order to exploit the benefits of performance appraisal maximally, it is recommended that much emphasis be directed towards reshaping paired ranking practices with an aim of improving employee productivity at KEFRI.
- The study found that performance monitoring has a moderate effect on employee productivity at KEFRI, with both electronic performance monitoring and performance tracking practices eliciting moderate effects. To gain from the benefits attributable to performance monitoring, it is recommended that employees be involved in designing both electronic performance monitoring and tracking practices so that the perception that such methods are snooping on them is discarded.
- For the third objective, the study found that communication/feedback highly affects employee productivity at the research institute, and only coaching practices in the organization had moderate effect on employee productivity. To reap maximum benefits of communication/feedback, the study recommends that coaching practices be designed based on the individual characteristics of the employee such as age, education level, gender as well as marital status among others.
- The study additionally established that performance contracting as applied in the organization has had a moderate effect on employee productivity. The study therefore recommends that designing of performance contracting practices such as accountability for tasks achieved, accountability for resource use, and rewarding performance should be done in

consultation with the contracting employees so that set goals are acceptably achievable.

Recommendations for further Research

To further broaden literature in the field of performance management system and employee productivity, further research should be done in the following areas:

- The effect of employee involvement in designing performance monitoring practices on employee productivity at KEFRI.
- The effect of employee characteristics-based coaching designs on employee productivity at KEFRI.
- The effect of workplace teams' involvement in performance contract formulation on employee productivity at KEFRI.

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