Influence of Proactive Behavior on Employee Performance: The Case of Ministry of Education, Science and Technology in Kenya

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Abstract: *Employee's proactive behavior is one of the attributes of workforce agility. The behavior presents the capability to think quickly and in an intelligent way and supports the skill of individuals to proactively overcome obstacles or create opportunities by rethinking usual approaches. This study investigated the influence of proactive behavior on employee performance in the Ministry of Education Science and Technology (MoEST) in Kenya. The study was founded on Self Determination Theory and adopted a positivism philosophy. Using a cross - sectional survey, from a target population of 2116 employees, a sample size of 416 employees was drawn from selected using purposive sampling technique. A pilot study was conducted from MoEST employees in the in Laikipia, Isiolo and Meru counties to pretest the data collection instrument. Descriptive analysis, test of regression assumptions, and bivariate linear was used for inferential analysis. The results indicated that proactive behavior was associated with R - Square of.830, F - statistic of 654.666 and p - value of.000, a beta coefficient value of β=0.739 and associated p - value of.000 <.05. These results imply the proactive behavior had a positive and statistically significant influence on employees' performance. Based on these findings, the study recommends that the Ministry and Public service at large should initiate where necessary and enhance capacity building programs on employee proactive behavior as it can explain over 80% of the variations in an employee's performance. Further the study recommends that employee proactive behavior should be a monitored over time to sustain performance. Further, this behavior should be considered a strong variable of interest during entry level and promotion evaluation criteria in addition to respective employee technical skills.*

Keywords: Proactive Behavior, Employee Performance, Regression Analysis

1. Introduction

1.1 Background of the Study

In the aftermath of the COVID - 19 pandemic, it has been acknowledged that performing workers are those who can adapt their delivery systems and redevelop to keep up with the dynamics of the contemporary tumultuous economy while working online (World Economic Forum, 2020). Companies that are performing well are those that used the COVID - 19 pandemic as a chance to gain knowledge and disrupted themselves through extensive digitization and innovation. In their study on workforce agility Gobbi et al., (2021) found that agile workforce management can help businesses innovate their way to success, strengthen their strategic skills, and cut down on both fixed and contingent workforce costs. The World Economic Forum report (2020) observed that the COVID - 19 crisis necessitates the adoption of workforce agility in order to adjust to the continuously changing laws and processes at work, where individuals are engaged and expected to perform admirably. Employers, who appreciate workforce agility, foster an environment for employee development, and value workforce agility are likely to manage a group of highly developed individuals whose final product is good performance (Kipkebut, 2010). In the Kenya's Vision 2030, a target of 10% GDP growth had been set that calls for common responsibility in order to avoid the state of economic growth being elusive. If businesses give their staff opportunities for empowerment, they become more productive ensuring that this goal will be fulfilled. Notwithstanding the prime importance, workforce agility is presently one of the less studied topics (Harsch & Festing, 2020; Muduli & Pandya, 2018; Storme et al., 2020). Individuals are seen as being the primary source of competition, the primary advocates of agility and the primary change - agents (Holbeche, 2018; Munteanu et al., 2020). Therefore, it is evident that their absence of attempts to thoroughly analyze the situation of employee agility in many organizations. Therefore, the focus of this research is on how employee performance in MoEST is affected by workforce agility.

1.2 Problem Statement

The core mandate of MoEST is to contribute to the building of a just and cohesive society that enjoys inclusive and equitable social development through provision of accessible and affordable quality education. Subsequently, in the 2021/2022 financial year, MoEST was allocated over Ksh.543. Billion, accounting for 23.9 % of the Kenyan budget for that year. Performance of the employees in the public service is paramount in delivering social transformation desired by the Nation. Education is one of the key sectors undr the Kenya Vision 2023 agenda and ranks top four under the United Nations Sustainable Development Goals (SDG). Despite the critical role of the ministry, employee performance has been an on - going concern, in an environment of resource scarcity and mounting needs.

Consequently, the education sector experiences pressure to make fundamental improvements to keep pace with the constantly changing technological, economic, social, political and other advances. A report by GOK on MTEF

comparing the estimated budgeted projections with the actual employee performance achieved during the FY 2022/23 to FY 2024/25, provided an analysis and evaluation of performance in education sector. The results showed that the MoEST employees' performance was among the best among other sectors with an average composite score of 3.2018. However, this was a decline from the previous year's, which had an average composite score of 3.3920. Human capital theory view that workforce agility has a direct linkage with employee performance driving enhanced capability to exploit opportunities and to withstand threats derived from frequent and sometimes unexpected changes. These are achieved by responding quickly and reconfiguring resources and strategies to enhance organizational efficiency and effectiveness. Although workforce agility may not be the only factor that determines performance, it plays a key role in employee engagement.

Employee proactive behavior is known to be one of the attributed of employee agility. It entails the questioning the status quo and changing or strengthening existing circumstances, instead of simply passively adapting to the present environment (Nguyen et al., 2020). It is the ability to monitor the environment for possibilities and recognize them is typically a proactive behavior (Anjeline et al., 2019). The dearth in behavioural factors that affect performance of employees in the public service has necessitated the need to cross - examine how the MoEST can achieve improved employee performance under the ever - growing agile workforce, a globally competitive and adaptive HR base as outlined in the Kenya Vision 2030. This study therefore sought to evaluate the influence of proactive behavior on employee performance in the MoEST.

1.3 General Objective

The general objective of the study was to evaluate the influence of proactive behavior on employee performance in the Ministry of Education Science and Technology in Kenya.

2. Literature Review

2.1 Self - Determination Theory (SDT)

Deci and Ryan (1985) proposed the SDT theory, which advocates that intrinsic and extrinsic motivations are the two main types of motivation. The SDT is a general theory of human motivation that places an emphasis on how much proactive behavior is considered to be relatively autonomous (how much it originates from the self) versus fairly restrained (the degree towards which interpersonal or intrapsychic circumstances compel or constrain conduct). Deci and Ryan (2000) acknowledge four proactive behaviors: anticipation, improvisation, difficult tasks breakdown and continuous improvement. As a result, it's crucial to satisfy the needs for proactivity at work so as to exhibit efficaciousness. Some behaviors of proactivity have a psychological flexibility when engaging in work - related activities and relationships. There is a strong influence in behaviors acquired at the workplace, and other demands associated with diminished physical and mental health of

employees which leads to increased or decreased performance. This theory presents a dependable guide for the elements of proactive behavior which this study proposes to be a function of employee agility.

2.2 Empirical Literature

Various studies have been published on agility but not in a devolved social sector like the MoEST. For instance, Alavi, (2018) research was on Small and Medium sized Enterprises, while that of Basˇkarada & Koronios (2018) was on international organizations. These studies were done prior to 2019 and in the private sector. This study focuses on the public sector, and in particular the education sector and thus represents a contextual gap that this study seeks to fill. COVID 19 necessitated a lot of changes that were both resource and technological related. This study was done in a post COVID era and thus brought a new perspective on the subject, based on the challenges and changes that have been adopted. Most studies done on agility, for instance those by Al - Kasasbeh et al., (2016) in USA and Tessarini & Saltorato (2019) in Brazil were both using undefined population, sampling was not statistical and the analysis of data collected was not procedural. This presents a methodological gap that this study addresses by using concise scientific research methods. It is also noted that majority of researches on workforce agility have focused on the speed and flexibility from an operations perspective, while studies on cognitive attributes of agile workforce affecting individual employee performance needs to be explored. The problem of dealing with unpredictable, dynamic and constantly changing environment has been a prevailing topic both in industry and academia for decades now and this has been emphasized by a study conducted by Sherehiy et al., (2017). The dearth in behavioural factors that affect performance of employees in the public service has necessitated the need to cross - examine how the MoEST can achieve improved employee performance under the ever - growing agile workforce, a globally competitive and adaptive HR base as outlined in the Kenya Vision 2030. This study therefore sought to evaluate the influence of workforce agility on employee performance in the MoEST and recommends strategies for achieving a greater workforce performance. Therefore, based on the reviewed literature, it was hypothesized that: Ho1: *Proactive behavior does not have a statistically significant influence on employee performance in the Ministry of Education, Science and technology in Kenya.*

3. Conceptual Framework

This study conceptualized employee proactive behavior as the stimulus for weighted employee performance.
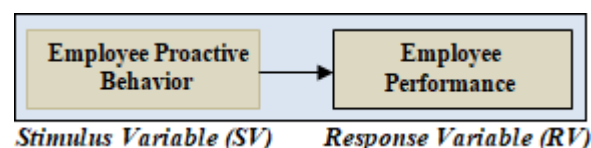

Figure 1: Conceptual Framework for Proactive Behavior and Employee Performance

3.1 Research Gaps

This study was carried out in a social sector and in a devolved system of governance. Precise parameters suitable for the Education sector were used in the case of the regressor and in the context of employee performance in the service sector. The proactive behavior measures used in this study were, *ability to anticipate problems, ability to improvise solutions, ability to decompose difficult tasks, continual Improvement, multitasking & knowledge sharing, collaboration at work & flexibility, use of soft skills, self - motivation & commitment, minimal workplace conflicts & responsibility seeking, career growth/skill enhancements.* This study sought to assess the influence of these proactive behavior attributes on employee performance. Thus study therefore endeavored to fill these contextual and contextual gaps.

4. Research Methodology

4.1 Philosophy, Design and Instrumentation and Data collection

This study adopted a descriptive research design (Bryman 2021). The unit of response was six (6) County employees from each County; Regional Directors (RD) & Deputy Regional Directors (DRD) (48), County Directors (CD) and Deputy County Directors (DCD) (48), Sub - County Directors (S - CD) and their Deputy Sub - County Directors (DS - CD) (48), Education Officers (EO) (136), Administrative Assistants (AA) (48) and finally Clerical Officers (CO) (88). Purposive sampling was deemed useful to determine a sample size of 416 respondents. Primary data was collected using a structured questionnaire. The measurement of the each of the variables was based on opinion, belief and an attitude based on the bank engagement with the borrowers. These constructs do not have a direct measure. As such, a five - point Likert scaled questionnaire asked the respondents to indicate to which extent they agreed with the statement and scale had the equivalences of agreement "to a very small extent" (1), to a small extent (2), to moderate extent (3), to a high extent (4) and finally to a very high extent (5) (Charandrakandan, Venkatapirabu, Sekar & Anandakumar 2011). SPSS was preferred owing to its systematic capabilities on a wide range of statistical analyses and presentations (Porter & Gujarat, 2009).

4.2 Reliability of Instrumentation

Internal consistency test results are presented in Table 1. The results in this Table show that reliability of this construct using Cronbach was 0.838 and hence acceptable based on a as a rule of thumb of 0.7 threshold for acceptable level of stability assessment.

Table 1: Reliability test Results

Variable	Number of Items	Cronbach Alpha Coefficient
Proactive behavior	12	0.838

4.3 Data Analysis and Presentation of Results

The twelve (12) parameters' of proactive behavior generated a mean and standard deviations were generated for preliminary evaluation. This was followed by test of regression assumptions and finally inferential analysis. Hypothesis testing was done using Simple Linear Regression (SLR) model. Model R - Square, ANOVA statistics (F Statistic and associated p - value) and regression coefficients (Beta and associated p - value) were extracted. The equation used in this study was in the form; Y/Employee Performance = $\alpha + \beta_1 + \epsilon$; where Employee performance (EP) is (regressand) and β_1 is proactive behavior measures (regressor). This equation is supported by Montgomery, Peck, & Vining, 2001; Garson, 2012; Argyrous, 2011).

5. Findings & Discussions

5.1 Response Rate

A total of 416 questionnaires were distributed to the eight region; that is, Mombasa, Garissa, Kisumu, Kakamega, Machakos, Nyeri, Nairobi and Nakuru. Two hundred and ninety eight (298) questionnaires were totally filled and returned; giving a composite response rate of 71.6%. This was deemed as an adequate response rate. Therefore, the response rate was regarded good for this study; an indicator that the results are generalizable.

Table 2: Response by Position

Category	RD & DRD	CD & DCD	S - CD & DS - CD	EO	AA	CO	Total
Number of Questionnaire Distributed	48	48	48	136	48	88	416
Number of Questionnaires Returned	41	37	34	83	39	64	298
Response Rate (%)	85.4	77.1	70.8	61.1	81.3	72.7	71.6

4.2 Test of Regression Assumptions

(Porter & Gujarat, 2009) advice that prior to data analysis, it is important to assess a number of statistical assumptions about the distribution of the response variable and the properties of the regressors in general.

4.2.1 Test of Normality for Employee Performance
The primary data measuring employee performance was weighted for the nine (9) parameters. The weighted measures of the dependent variable were subjected to customize analysis; Z - score Box - Cox transformations through rescaling the continuous target (employee performance) to reduce the skewness of the fields. During the transformation (s) the final mean was set as a mean of

zero (0) and the final standards deviation was set with a threshold of one (1). The resultant transformed scores were then subjected once again to the normality Q - Q Test. The results of the visual normality tests and test for outliers are

presented in Figure 2. . The Quartile by Quartile (Q - Q) and the Box Plot were used to assess the normality of the distribution. The results are presented in Figure 2.
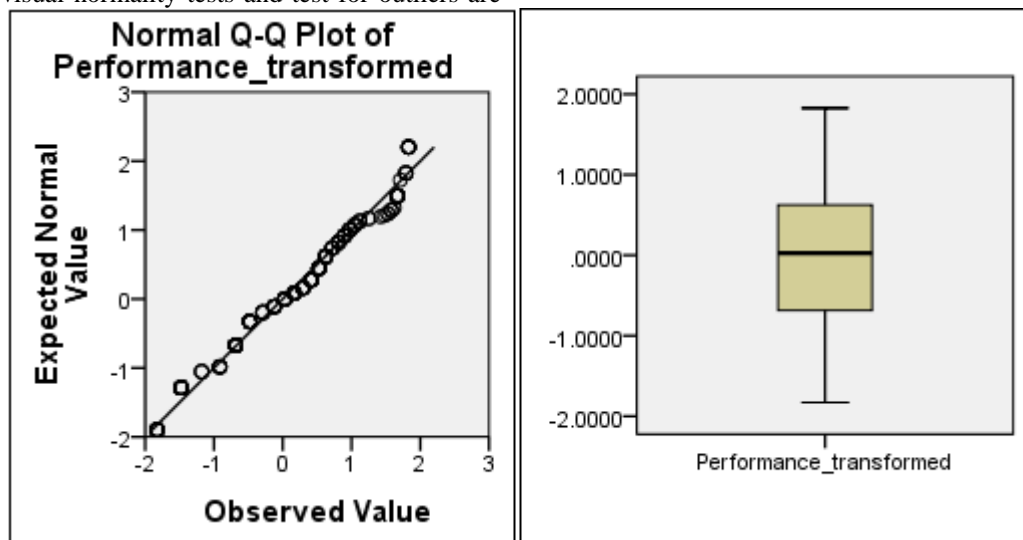

Figure 2: Q - Q Plot and Box Plot for Employee Performance

The visualized distribution of random variables of the differences between an empirical distribution and a theoretical distribution of the weighted Box - Cox scores of employee performance are normally distributed. This is because the Q - Q plots are fairly spread on the diagonal line from point (- 2, - 2) to the point (+3, +3). On the other hand, the Box - Plot shows that the median is about the middle of the Box and the associated whiskers are also about the same size on both sides of the box. This means that the distribution is quite symmetric, a confirmation that the overall distribution is normally distributed and that the distribution does not have outliers. Therefore, Box - Cox Scores were used in the rest of the analysis for the measurement of employee performance

4.2.2 Test of Autocorrelation
The test of independence for proactive behavior was carried out using Durbin - Watson d statistics. A Durbin - Watson d statistics of 1.892 was extracted. This was within the recommended range of 1.5 and 2.5 for an acceptable level of no autocorrelation in a variable measure.

4.2.3 Test of Linearity
The stimulus variable (proactive behavior weighted measure) and the response variable (employee performance) were subjected to a linearity test using Pearson's correlation coefficient (r). A correlation coefficient of 0.830** was generated at p - value of.000. This statistic implied that indeed a linear relationship existed between the two variables. Simple linear regression model was deemed appropriate for inferential analysis. (Chatterjee & Simonoff 2013).

4.3 Hypothesis Testing

In order to assess the influence of proactive behavior on employee performance, the following null hypothesis was tested by the study.

H_01: Proactive behavior does not have a statistically significant influence on employee loan performance in the Ministry of Education Science and Technology in Kenya.

So as to test the null hypothesis, (H_01) weighted scores of proactive behavior measures were regressed against weighted measures of employee performance. Model summary, ANOVA and regression model coefficients output were generated and the results presented in Table 3, Table 4 and Table 5 respectively. Model Fitness results are presented in Table 3 below.

Table 3: Model Fitness for Proactive Behavior and Employee Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.830	.689	0.688	0.5589389

Table 3 shows that the R was 0.830. This implies that proactive behavior measures had a strong and high correlation with employee performance. In addition, the R - Square was 0.689. This implies that proactive behavior accounted for approximately 68.9% of the variations in employee performance among staff in the Ministry of Education Science and Technology in Kenya. The model in Table 4 was further examined for its significance proactive behavior in predicting employee performance using ANOVA. The results for ANOVA for proactive behavior and employee performance are presented in Table 4.

Table 4: ANOVA Output for Proactive Behavior

		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	204.526	1	204.526	654.666	.000b
	Residual	92.474	296	.312		
	Total	297.000	297			

Table 4 show that F statistic of 654.666 and the associated p - value of 0.000<.05. This implies that the proactive behavior has a statistically significant influence on employee

performance in the Ministry of Education Science and Technology in Kenya at 5% level of significance. Based on these results the Null hypothesis (H_01) that stated: *proactive behavior does not have statistically significant influence on employee performance in the Ministry of Education Science and Technology in Kenya* was rejected and instead

confirmed that proactive behavior has a positive and statistically significant influence on employee performance in the Ministry. Regression coefficients of proactive behavior and employee performance are presented in Table 5.

Table 5: Regression of Coefficient for Proactive Behavior

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	- 1.566	.069		- 22.618	.000
	Proactive Behavior	.739	.029	.830	25.586	.000
a. Dependent Variable: Employee Performance_transformed						

Table 5 shows that proactive behavior measures have beta coefficient of.739 and associated p value of 0.000. This implies that a unit change in proactive behavior is associated with a.739 change in employee performance in the Ministry of Education Science and Technology in Kenya. The resultant Bivariate Linear Model for the proactive behavior measures is in the form;

Employee Performance= - 1.566 +.739 (Proactive Behavior) ……………Model 1

This is in line with the emphasis by Soane et al., (2012) & Simbula et al., (2011) who found that meeting goals, being creative and innovative, being highly productive, and maintaining work discipline have both short - and long - term proactive factors which lead to employee performance. In the two researches conducted in Thailand and Netherlands on proactive behavior and employee performance, Marisa S. (2019) & Li Sun, (2019) also found that employee performance was highly associated with proactive behavior. The study contributes to the study by confirming that indeed the Self - Determination Theory (SDT) remains a useful tool for predicting employee behavior in the service sector and in particular a devolved unit (s) in public service environment and in an emerging economy.

6. Conclusions and Recommendations

6.1 Conclusions

Analysis of Variance (ANOVA) statistics for proactive behavior had an associated p - value of p=.000 < p - value of.05. Based on this, the associated objective's null hypothesis was rejected. This study therefore concludes that indeed, at 95% degree of confidence, there is a positive and statistically significant relationship between employee's proactive behavior and employee performance in the Ministry of Education, science and Technology in Kenya. In addition, the study concluded that in terms of human capital theory, employee proactive behavior can and actually does contribute to performance of employee in MoEST in Kenya.

6.2 Recommendations

In order to developed and or sustain a high performance team in the MoEST, management should invest and developed employees proactive behavior capabilities in any of the noted areas of interest. Thus study noted that ability to anticipate problems, ability to improvise solutions, ability to

decompose difficult tasks, continual improvement, multitasking & knowledge sharing, collaboration at work & flexibility, use of soft skills, self - motivation & commitment, minimal workplace conflicts & responsibility seeking, career growth/skill enhancements are key areas that an institution can leverage on to drive high performance among employees in the Ministry. These employee capability areas have ben conformed to have high linkage with high performing in the Ministry of Education Science and Technology in Kenya.

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