FUW CENTRE FOR RESEARCH JOURNAL OF MANAGEMENT & SOCIAL SCIENCES (FUWCRJMSS)

The Impact of Training and Empowerment on Human Resource of Potato Firms in Plateau State: The Mediating Role Of Development

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Abstract

Training and empowerment are crucial for management of firms and researchers. The purpose of this paper is to explore the intervening role of development in the relationships between training and human resource; empowerment and human resource among Potato firms in Plateau State. The researcher adopted a cross-sectional survey design using 100 responses among Potato firms' employees in Plateau State. The data were analyzed using SmartPLS version 3.2.7 to evaluate the hypothesized relationships. The results reveal: significant relationship between training and human resources. Conversely, insignificant relationship was discovered between empowerment and human resource. However, development mediates the both relationships between training and human resource; empowerment and human resource.

Keywords: Training, Empowerment, Development and Human resource.

Introduction

Potato firms play a crucial role in providing one of the main root crops as food to the teeming population. Similarly, they provide job opportunities and boost the economic strength of nations. These firms' performance differs across the world. In Africa, Algeria firms' performance is first, with output of 4,606,400 metric tonnes, Egypt is second, with output of 4,325,540 metric tonnes, and Morocco is third with output of 1,924,870 metric tonnes (FAOSTAT, 2019). However, Nigeria with it potential is rank six in Africa producing a low output of 1,284,370 metric tonnes and yield per hectare of 37,201 kg/ha (3,720.1 kg/ha). Beside the low output, the production capacity keeps fluctuating over the years (Gambo, Jabil & Davou, 2017).

Government effort to improve the production capacity through its numerous programs and research but the low output persisted. Close look at the interventions, little attention is invested on human resource. This calls for investigation on the methods that will enhance human resource performance. Hence this study seeks to; examine the impact of training and empowerment on human resource. The mediating role of development of Potato firms in Plateau State.

The low output of Nigeria Potato firms is a matter of concerned. Beside the low output, the production fluctuation has serious implication on firms' income. As previously established, Government effort to improve the production capacity through its numerous programs and research but the low output persisted. Close look at the interventions, little attention is invested on human resource. This calls for investigation on the methods that will enhance human resource performance. Hence this study seeks to; examine the impact of training and empowerment on human resource. The mediating role of development of Potato firms in Plateau State.

Objectives of the Study

The main objective of this study is to evaluate the roles of training and empowerment on human resources of Potato Firms in Plateau State

a) To determine the impact of training on human resources of Potato Firms in Plateau State
b) To examine the impact of empowerment on human resources of Potato Firms in Plateau State
c) To determine the impact of development on human resource of Potato Firms in Plateau State
d) To examine the mediating role of development on the relationship between training and human resources of Potato firms in Plateau State
e) To evaluate the mediating role of development on the relationship between empowerment and human resources of Potato firms in Plateau State.

Research Questions

This study attempts to provide answers to the following questions in order to achieve the set objectives.

a) To what extent does training impact human resources of Potato Firms in Plateau State?
b) To what extent does empowerment impact human resources of Potato Firms in Plateau State?
c) To what extent does development impact human resource of Potato Firms in Plateau State?
d) To what extent does development mediate the relationship between training and human resources of Potato Firms in Plateau State?
e) To what extend does development mediate the relationship between empowerment and human resources of Potato Firms in Plateau State?

Research Hypotheses

H_1: There is positive relationship between training and human resources of Potato Firms in Plateau State

H_2: There is positive relationship between Empowerment and human resources performance of Potato Firms in Plateau State

H_3: There is positive relationship between Development and Human Resource of Potato Firms in Plateau State

H_4: Development mediates positively in the relationship between training and human resources of Potato Firms in Plateau State.

H_5: Development mediates positively in the relationship between empowerment and human resources of Potato Firms in Plateau State**.**

Domain

This study dwells on training, empowerment, development and human resource. This is so because the study variables are seen to be importance. Therefore, training and empowerment will improve Potato firm's human resource productivity. The study is conducted on Potato firms in Plateau State. This is due to poor performance of these firms.

Audience

The outcome of this study is important to management, members of staff, human resource management, student and researchers in making informed decision about the impact of training and empowerment on human resource. Specifically, the mechanism role of development this study will provide the human resource department/business administration with relevant information for appropriate planning and implementation of training and development matter.

Conceptual Review

Human Resource

Human resource has become strategic resource to gain sustainable competitive advantages in this age of globalization. That is, the survival of institutions, competitive advantages and performance in the world depends on the ability of workforce (Kazim, et al, 2017). Ejere (2011) posited that human resource refers to the human factor in the production process; and consists of the combined knowledge, skills or competencies and abilities of workforce. Similarly, Obeh and Atumah (2012) defined human resource as the abilities and skills of human being. Hence, it is only human resource in the organization that is capable of learning, adapting, creative and innovative. Likewise, where human resources have been disregarded, the performance of the organization would be affected.

Therefore, for organization to achieve its goals and objectives, human resources must be care for as an intellectual property capable of improving the performance and income of the organization. This care, can come in form of training which will enhance the skills and knowledge of the human resource for better performance of their day to day activities.

Training

Training is a key element for improved performance; this is so because it can increase the level of individual or organization competencies. Training programs such as seminars, workshops etc helps in making acquaintance of employees with more advance technology and attainment of robust competencies skills in order to handle complex situation in a place of work. Beardwell and Holden (2001:324) viewed training as an intentionally improve attitude, knowledge or skill via learning in order to attain improved performance in a specific task or variety of tasks. Past studies revealed that training had significant positive effect on job satisfaction (Chiang, Back, & Canter, 2005; Leppel, Brucker, & Cochran, 2012; Sabir et al., 2014) and organizational commitment (Bulut & Culha, 2010; Lamba & Choudhary, 2013; Roehl & Swerdlow, 1999).

Gazioglu and Tansel (2002) also confirmed that training employees can lead to favourable organizational commitment and job satisfaction. Other scholars such as Paat and Rumokoy (2015) revealed that training enhances quality/quantity of work, planning/organizing, initiative/commitment, teamwork/cooperation and communication which in turn improve human resource performance.

Empowerment

One of the important factors in the survival and existence of organization is empowering human resource. Empowering human resources have a positive effect on employees' productivity, and organizational (Asgarsani et al, 2013). Cacciope (1998) defined empowerment as a process where management offers flexibility to the employees to make decisions and take action that will lead to the success of the organization.

Greater performance is the key expectation from the employees. Similarly, Saifullah et al. (2015) also added that empowerment is an effective strategy that can be adopted by the manager to improve the performance of the employees, that is, if an employee is empowered, he will be more efficient in performing his tasks.

Development

Development takes the form of learning activities that prepares people to exercise wide or increased responsibilities. Development happens within an individual, between people and as an increase ability to deal with complexity (Harris & Kuhnet, 2008). Successful development of capable and highly motivated employees is a prerequisite for organizational innovation (Collins & Smith, 2006). When organization invest in their human resources through training, the human resource become robust to handle complex challenges confronting their routine task, thereby enhance the organization performance. Similarly, empowering human resource by organization build high level skills, knowledge and competencies to be innovative and flexible to achieve organizational goals and objectives

Human resources must be developed so as to yield the desire performance that will guarantee long progress of the organization.

Conceptual Framework

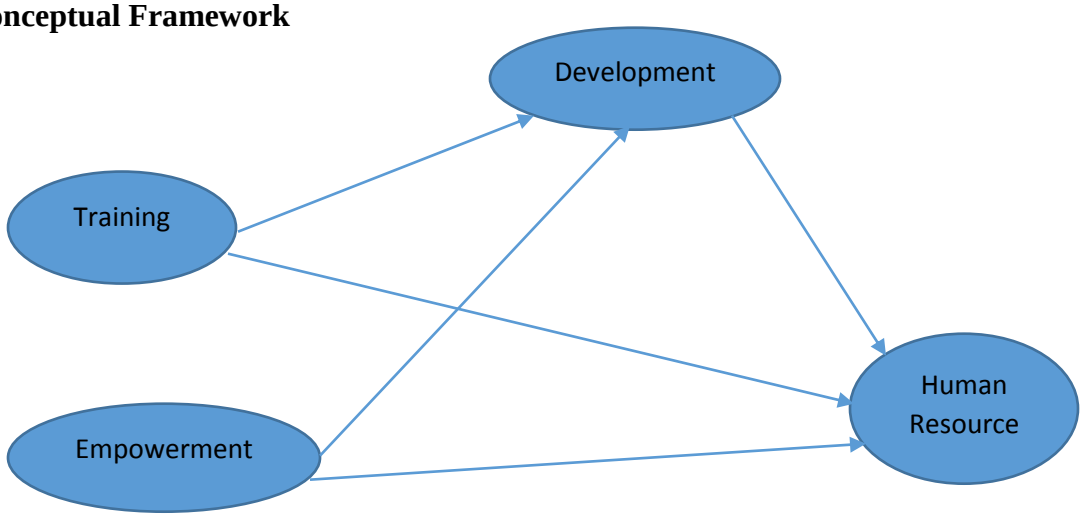

Figure: 1

Methodology

Research methodology for data collection is very important to ensure the validity of any research. A cross sectional approach was adopted. In addition, the study followed a positivist research paradigm. The study used Structural Equation Modelling (SEM) variance- based (Smart-PLS) to analyze the data. The selection of the instrument is based on its robust predictive potency in behavioral science research (Hair Jr, Hult, Ringle & Sarstedt, 2013).

Measures

The questionnaire item in this study was adopted from UJBA1 based on its importance to this study. For instance, training was measured using a scale consisting of five items. More so, empowerment was measured using five items. To measure the construct of Human resource, five items were used. Finally, Development was measured using five items.

Result

Fieldwork, Data Cleaning and Demographic Report

The instrument was administered by hand to hundred target respondents. The entire questionnaire, were all properly filled and retrieved, representing 100% response rate. The high response rate, There was no record of any missing data. Therefore, all the responses were keyed into the IBM@SPSS version 26.0 for subsequent analysis.

The demographic summary of the respondents is shown in table 1 below.

Table1: Characteristics of the Respondents

Indices	No of Respondents n¼ 100	Percentageofrespondents
Gender		
Male	73	73
Female	27	27
Age		
18–30	53	54
31–Above	47	46
Qualification		
PHD	3	3
Masters	32	32
1stDegree	40	40
Diploma	4	4
SSCE	21	21
Yearsofworkexperi		
16Above	26	26

From the table above and the chart below shows that 23% of the population were Female and 77% were Male.

Descriptive Statistics

Descriptive Statistics Though proponent of Variance-based SEM (Hair Jr et al., 2013; Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014) have argued that when using PLS-SEM normality requirement in data is relatively important, notwithstanding I ensured normality is ascertained. Normality test was conducted and result presented in Table 2. Result indicates that the measures of central tendency (mean and standard deviation) meets normality requirement on a 7-point Likert typed scale.

Descriptive Statistics

Table 2	N	Minimum	Maximum	Mean	Std. Deviation
TR1	100	2	5	3.84	.638
TR2	100	1	5	3.82	.695
TR3	100	2	5	3.83	.656
TR4	100	2	5	3.84	.663
TR5	100	1	5	3.80	.712
EM1	100	1	5	3.87	.754
EM2	100	2	5	3.88	.722
EM3	100	2	5	3.82	.652
EM4	100	2	5	3.88	.696
EM5	100	2	5	3.98	.644
DV1	100	2	5	3.77	.711
DV2	100	2	5	3.87	.622
DV3	100	2	5	3.81	.667

DV4	100	2	5	3.78	.744
DV5	100	2	5	3.86	.675
HR1	100	1	5	3.81	.621
HR2	100	2	5	3.83	.558
HR3	100	2	5	3.82	.592
HR4	100	1	5	3.77	.677
HR5	100	1	5	3.73	.632
Valid N (listwise)	100				

Data analysis

The analysis was done in 2 phases to enable us assess first, the measurement model and secondly, the structural model.The assessment of the measurement model was conducted to establish the convergent validity and discriminant validity, while structural model examines the path coefficient in line with the proposed hypotheses and other relevant test.

Measurement Model

In order to evaluate the measurement model, a convergent and discriminant validity were examined. First the convergent validity measures the extent to which indicator or measure correlate with alternative indicators or measures of the same construct (Hair Jr, Hult, Ringle, & Sarstedt, 2016) and it is examined through the following coefficients, factor loading, composite reliability (CR) and average variance extracted (AVE) (Yeap et al., 2016; Lo, Ramayah, Isa, & Jais, 2013). Based on the results in Table 3, all factor loadings were at least 0.7, the composite reliabilities were all higher than 0.7 while the AVE values for all the constructs were also higher than 0.5, suggesting that convergent validity requirements are not violated (Hair et al., 2011; Hair et al., 2014).

Mean while some items (TR1,EM4, EM5, DV2, and DV4) were dropped from the constructs Training, Empowerment and Development due to low factor loading and collinearity problem. In addition, the study determined the Cross Loading and convergent validity through

Composite validity and AVE(Hairetal.,2013).

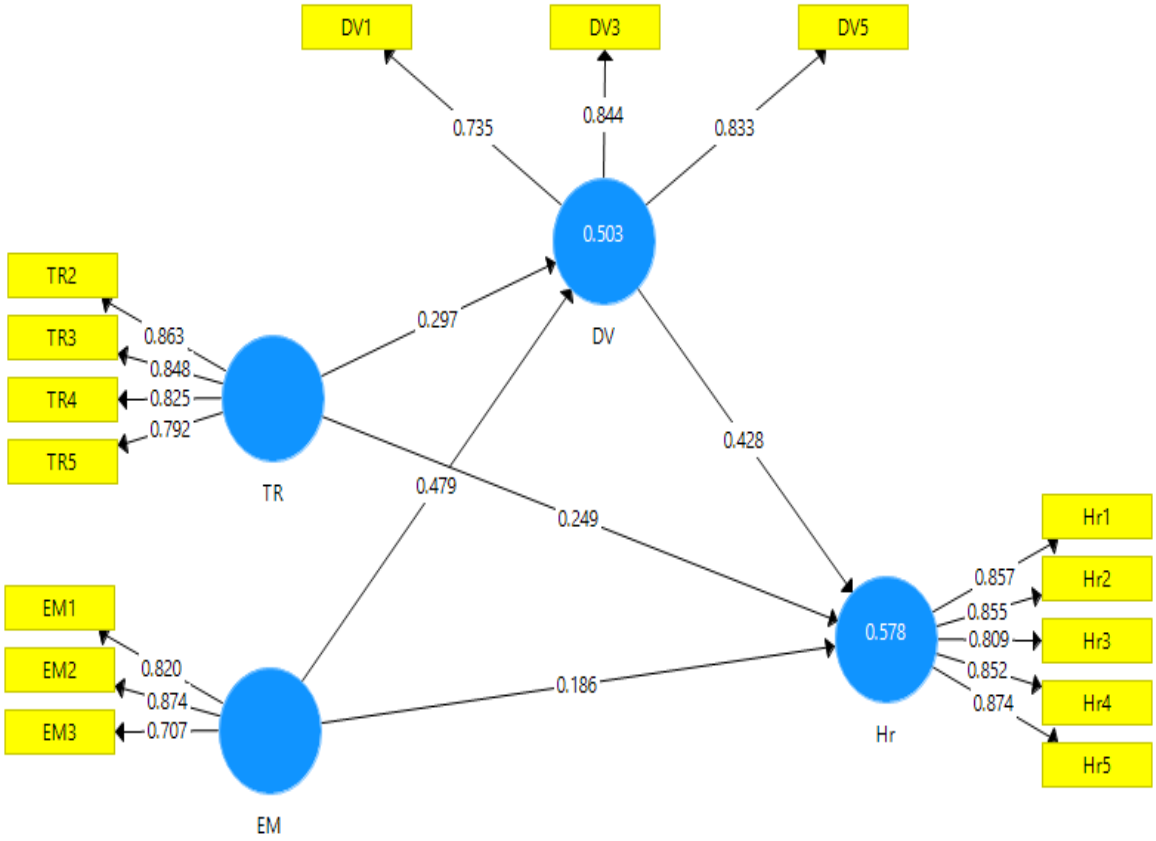

Figure 4: Measurement model showing indicators loading

Table 3: Convergent Validity

Construct	Indicator	Factorloading	CV	AVE
TRAINING	TR2	0.863	0.881	0.61
	TR3	0.848		
	TR4	0.825		
	TR5	0.792		
EMPOWERM	EM1	0.820	0.855	0.54
	EM2	0.874		
	EM3	0.707		
DEVELOPME	DV1	0.735	0.835	0.50
	DV3	0.844		
	DV5	0.833		
HUMAN	HR1	0.857	0.928	0.72
	HR2	0.855		
	HR3	0.809		
	HR4	0.852		
	HR5	0.874		

Note: indicator TR1,EM4, EM5, DV2, and DV4 were deleted due to poor loading

Discriminant Validity

Discriminant validity is used to establish the dissimilarities of constructs used within a given research framework (Henseleretal.,2014). Hence, in this study, Heterotrait and Monotrait (HTMT) criterion is used due to its efficiency (Henseleretal.,2014) compared to other criteria. Researchers (Henseleretal.,2015) confirmed in a Monte Carlo simulation experiment that HTMT criterion is superior. Table III indicate that discriminant validity was established among constructs since all values fall within the acceptable regionof−1and1.Avalue⩾0.9suggests high collinearity and hence violates the criteria(Hairetal.,2017).

Table 4. Assessment of discriminant validity HTMT criterion

	1	2	3	4
1.Development	–	–		
2.Empowerment	0.820	-	–	
3. Human	0.859	0.747	-	
4.Training	0.836	0.848	0.753	–

Evaluation of Structural Model

In assessing the structural model or the latent relationships, a bootstrapping 500 samples from the primary sample using random replacement was conducted. I then observed the path coefficients (β) and their corresponding $t - values$, the coefficients of determination (R2 or predictive accuracy), predictive relevance (Q2) using the cross validated redundancy blindfolding procedure, with omission distance of 7 and the effect size of each path in the model.

Table 5: Result of hypotheses testing

Null Hypothesis	Path (Relationship)	Path Coefficient (β)	Standard Error	t-Statistic	Decision
$H_{1:}$	TR - > HR	0.250	0.105	2.372	Supported
$H_{2:}$	EM - > HR	0.184	0.101	1.822	Not-Supported
$H_{3:}$	TR - > DV	0.294	0.097	3.040	Supported
$H_{4:}$	EM - > DV	0.481	0.097	4.968	Supported
$H_{5:}$	DV - > HR	0.431	0.095	4.517	Supported

Note: TR = Training, EM = Empowerment, DV = Development, HR = Human Resource. T-statistic greater than 1.96 at 0.05% level of significance. β value of .10 to 0.29, .30 to .49 and .50 to 1.0 are weak, moderate and strong correlations, respectively (Cohen, 1988)

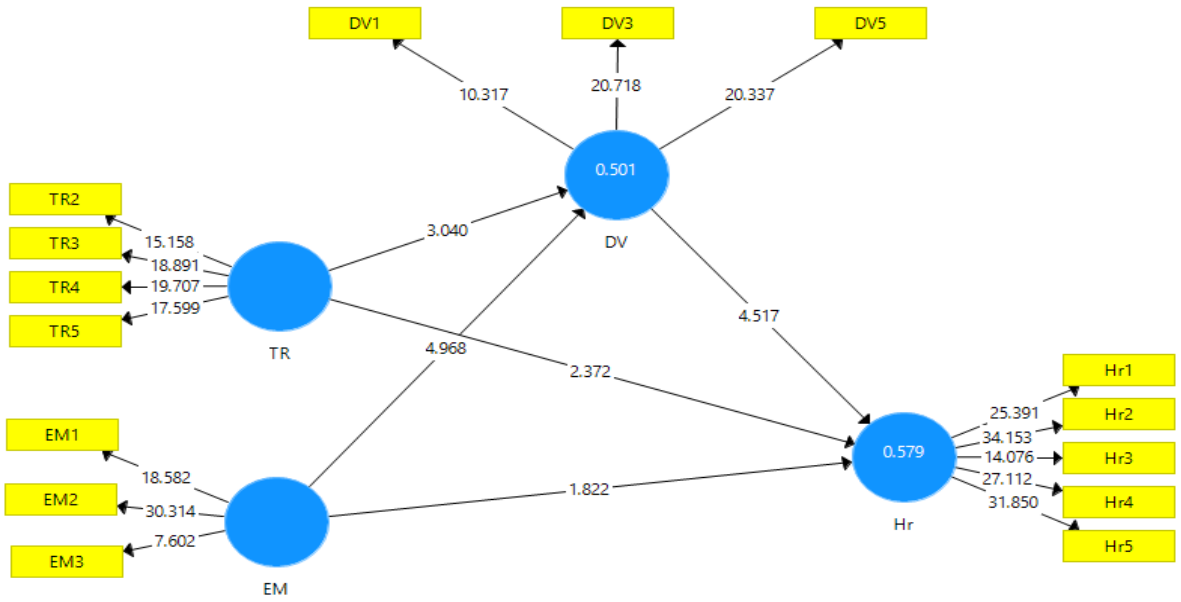

Figure 5: Path coefficient

Table 5 and figure 5 reveal that the relationships in H1, training and human resources (β = 0.250, t = 2.372) was supported. While H2, empowerment and human resource (β = 0.184, t = 1.822) was not supported. More so, the relationships in H3, training and development (β = 0.294, t = 3.040), H4, empowerment and development (β = 0.481, t = 4.968) and H5, development and human resource (β = 0.431, t = 4.517) were supported.

Assessment of Predictive Accuracy (*R*2)

The R-square statistic reveals the combined effect of all the independent variables on the dependent variable. According to Hair et al., (2014), the *R*2 is the ―percent of variance explained by the model; hence it is a measure of the model's predictive accuracy (p. 174). Closely related to the *R*2 is the adjusted *R*2. The adjusted R-squared compensates for the weakness in *R*2 by revealing the percent of variation explained by only those independent variable that in reality affect the dependent variable. We deployed bootstrapping procedure to determine the *R*2and Adjusted R values of the endogenous variables as could be seen in Table 6.

Table 6. Results of Predictive Accuracy (*R*2)

Exogenous Variable	Endogenous Variable	Predictive Accuracy R^2	Adjusted R^2
TR			
EM	HR	0.579	0.574

Note: TR = Training, EM = Empowerment, HR = Human Resource. Reference Values for R^2: 0.19 = Weak; 0.33= Moderate; 0.67 = Substantial, Chin (1988).

Table 6 reveals that the model HR = (TR, EM) recorded a moderate and positive*R*2 of 0.579. This means that all the independent variables (training and empowerment) jointly

explained 57.9% of the variance of human resource, while other unidentified variables are responsible for the remaining 42.1%. Thus, the model has a moderate predictive accuracy.

Assessment of Predictive Relevance (Q2)

Furthermore, We evaluated the predictive relevance ($Q2$) of the model using the cross validated redundancy blindfolding procedure, with omission distance of 7. Table 7 shows the output for a cross-validated predictive relevance through blindfolding with an omission distance of 7.

Table 7: Construct Cross-validated Redundancy (Total Q2)

Endogenous Variable	Latent	SSO	SSE	$Q^2 = 1-$ SSE/SSO
TR		500.000	500.000	
EM		400.000	400.000	
DV		500.000	338.281	0.352
HR		400.000	283.259	0.263

Note: TR = Training, EM = Empowerment, DV = Development, HR = Human Resource. Q^2 = Predictive Relevance; SSE = Sum of squares of Prediction errors; SSO = Sum of squares of observations. Reference value: $Q^2 > 0$ = Satisfactory predictive relevance, Hair et al., 2014).

As it can be seen in table 4.7, the bundle of exogenous latent variables presents a non-negative cross-validated redundancy index (Q2= 0.263>0). This means that the path model predicts the originally observed values very well. Hence, the independent variables of training and empowerment are relevant in predicting human resource.

Assessment of Effect Sizes ($f2$)

Effect size is the observed variation on the dependent variable due to the omission of an exogenous variable (Chin, 1998). Below is table 8 which shows the effect sizes of training, empowerment, and development on human resource.

Table 8: Effect sizes of latent variables

Relationship	f^2-effectsize	Remark
TR - > HR	0.078	Small
EM - > HR	0.037	Small
TR - > DV	0.100	Small
EM - > DV	0.267	Medium
DV - > HR	0.220	Medium

Note: TR = Training, EM = Empowerment, DV = Development, HR = Human Resource. Reference Values: f^2–less than 0.020 = no effect; f^2–0.020 = small effect; f^2–0.15 = medium effect; f^2–0.35 = large effect (Cohen 1988)

Table 8 reveals that training and empowerment have a small effect on human resource. Similarly, training has a small effect on development, while empowerment has a

medium effect on development. Likewise, development has a medium effect on human resource.

Assessment of mediating effect of development

A bootstrapping procedure was conducted to assess the indirect effects. The results in Table nine (9) reveals ($\beta = 0.207$,t-value = 3.318 and $\beta = 0.127$,t-values =2.268)for the mediating roles of development on the relationship between training and human resource and empowerment and human resource respectively. This met the first condition of mediation which requires that the t-value is $\geqslant 1.96$.

The second condition according to Preacher and Hayes (2008) requires that zero should not straddle between the upper class interval (UCL) and lower class interval (LCI). Based on our results, development on training and human resource(LCI=0.062,UCI=0.318) and development on empowerment and human resource (LCI=0.056,UCI=0.268) do not have zero(0) between upper and lower class interval. This, therefore, means that development strongly mediate the relationships.

Table 9: Assessment of mediating effect of development

Null Hypothesis	Path (Relationship)	Bita (*β*)	Standard Error	Lower Class Limit	Upper Class Limit	***t*-Statistic**	Decision
H4:	TR->DV->HR	0.207	0.207	0.062	0.318	0.001	Supported
H5:	EM ->DV->HR	0.127	0.129	0.056	0.268	0.024	Supported

Discussion and Findings

In this study, the study evaluated the predictors role of training and empowerment on human resource among Potato firms in Plateau State. The study also explored the mechanism role of development.

In line with the results obtained from the hypothesized relationships, the study discovered H_1, the direct relationship between training and human resource was supported and H_2, the direct relationship between empowerment and human resource, was not supported.

On the mediating role of development, the study discovered robust indirect relationships. The path connecting training and human resource through development was significant. Similarly, the path linking empowerment and human resource through development was significant. Therefore, when organization trained and empowered their human resource, they knowledge and skills of the human resources would be enhanced and in turn increase the organizational performance.

Conclusion

In sum, this study has the main thrust of testing the antecedent role of the constructs of training and development on human resource through the mechanism of development. From the results obtained in this study, we established empirically an indirect relationship between training and human resource through the intervening role of development. Similarly, the results established intervening role of development in the relationship between empowerment and human resource.

The study found the results insightful in connecting Human resource of Potato Firms in Nigeria particularly Plateau State and their skills and knowledge in enhancing the competitiveness and performance of their firms. In line with this discovery, Potato Firm's performance and competitiveness depend on the human resource investment in improving their skills and knowledge that will in turn enhance the general performance of the firms.

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