IMPACT OF ORGANIZATIONAL CULTURE ON ORGANIZATIONAL PERFORMANCE (A CASE ON EDUCATIONAL MATERIALS PRODUCTION AND DISTRIBUTION ENTERPRISE (EMPDE)

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ABSTRACT

One of the strategies to sustain in business and maximize earnings is strong culture in the organizations. The main aim of this research paper is to investigate impact of organizational culture on organizational performance with the Denison cultural model, among employees & managers of Educational Materials Production and Distribution Enterprise (EMPDE). The research approach used is quantitative & explanatory type Method. Structured Denison's cultural traits Questionnaire used as data survey. The collected data tested and analyzed result shows, Mission cultural trait is impacting (predicting) culture among Denison`s four cultural traits and Vision culture index scored the highest mean score among the cultural indexes. The findings show, there is a strong correlation between all the four cultural traits and a strong correlation between independent variables & dependent variable, from this concluded that Mission have a strong relationship with organizational performance with correlation coefficient, r=0.680. Regressions analysis tested to identify the predicting power (influence) of the independent variables over the dependent variable; the findings show that organizational culture explains (R2=0.567) 56.7% changes in organization performance. Also the Beta coefficient confirms only Mission & Consistency traits explains (β=0.439, P<0.05) and (β=0.254, P<0.05) respectively, therefore in multiple regressions Mission is the strongest impacting (predicting) cultural traits of organizational performance in this study. However, in bivariate regression test result shows (R2=0.365, P<0.05) Involvement explain organizational performance by 36.5% & (R2=0.349, P<0.05) Adaptability explain organizational performance by 34.9%.

Key words: Organizational Culture Traits, OrganizaTional Performance, Independent & Dependent Variables, Mission, Consistency, Adaptability, Involvement.

BACKGROUND OF THE STUDY

The globalization of markets, unfettered competition, digital transformation, an ever changing marketplace, and the knowledge economy are all challenges for manufacturing companies as well as for other economic clusters. Therefore, having a competitive advantage can help a company to survive and be more profitable than its competitors. Similarly, the cultural uniqueness of an organization constitutes an inimitable organizational capability to create its competitive advantage over its rivals. The preeminent leaders know how to shape the organizational culture (OC) of their organizations to achieve short as well as long-term objectives. In addition, organizational culture and leadership is critical for organizations seeking to build and sustain a competitive advantage in the knowledge economy (Akpa et al., 2021). The common values, beliefs, and standards that influence behaviors and decision making inside an organization are reflected in organizational culture.

Problem Statement

Citation Information: Yaada, C. H. (2024). Impact of organizational culture on organizational performance (a case on educational materials production and distribution enterprise (Empde). *Academy of Strategic Management Journal, 23*(6), 1-18.

The digital disruption era has made the organizational environment uncertainty. Organizations are faced with a greater risk of failure if they are not able to create innovation to be able to survive and compete. The disruption impact will affect almost everything in the organization, thus giving great pressure on the organization to adapt with environmental changes. If the organization fails to manage change, the organization has prepared itself to plunge into the abyss of disruption and death. Therefore, organizations that modify themselves continuously without changing their core values. The following problems are the drivers of this research paper: very few or no studied locally impact of organizational culture on organizational performance on manufacturing sector/plant to check there internal process and to improve their leadership style for organizational competitiveness with external environment, increasing profitability of organizations, development of innovative products, customer & employee's satisfaction. In addition through creation of strong and positive culture create increasing process efficiency and effectiveness of employees & organizations, employee empowerment for motivation. So that by study the current level of organizational culture to determine organizational performance in Educational Materials Production and Distribution Enterprise (EMPDE) and recommend points to improve organization performance , to be competent and sustain in business environment (Kataria et al., 2016).

Research Question

a) What is the relationship between organizational culture and organizational performance in EMPDE?
b) Which organization culture traits dominant culture of EMPDE?
c) What is the level of impact organization culture in the EMPDE?

Research Objectives

The general objective of this study is to investigate the impact of organizational culture on organizational performance of EMPDE.

Specific objectives

a) To identify impact of organizational culture on organizational performance in Educational Materials Production and Distribution Enterprise (EMPDE)?
b) To identify the dominant culture of Educational Materials Production and Distribution Enterprise (EMPDE)
c) To examine the level of impact (predicting) power of organization culture & performance in the EMPDE
d) To provide suitable suggestions in terms of strength & weaknesses of cultural traits and indexes to improve performance for executive managers of the enterprise.
e) Review of Related Literature

Organizational culture

In simple terms, the organizational culture refers to the set of values, beliefs, customs, and behaviors specific to the people working in an organization. Similarly, the culture of an organization is seen as a DNA that is not visible to the eye, but a very powerful tool that shapes what happens in an organization. Therefore, organizational culture is the personality of the organization. Based on Denison, organizational culture is a set of key values, assumptions, understandings, and norms that is shared by members of an organization.
Organizational Performance

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The term performance in an organization context refers to a way operations are undertaken. Performance is a dependent variable that seeks to measure the value created by an organization so as to evaluate and compare itself with others in the market. Similarly, organizational performance is a concerted effort of all units of an organization to work together as a team by adopting innovative strategies to achieve the goals and objectives of an organization (Korma et.al, 2022). According to Performance management is a continuous process of identifying, measuring, and developing individuals or teams, and of aligning that performance with the strategic goals of an organization.

Organizational culture and organizational performance

Due to an increasingly diverse and global workforce, the organization's culture has been changing, and it has an undeniable impact on the performance of any organization. Similarly, organizational culture considered to have deep impact and importance on the variety of organizational process, employees and its performance and an important element to unify various company cultures in the corporate group structure. Furthermore, the importance of culture is reflected in the generally accepted attitude that a real organizational culture (one that suits business conditions) leads to success, and greater efficiency and effectiveness of company's operations and to its growth and development.

Models of organizational culture and organizational effectiveness

Several theories are made to link organizational culture to organizational performance. For the purpose of this research paper, only Denison's model, Schein's theory & Hofstede theory of organizational culture are discussed.

The Denison Model of organizational culture and effectiveness

Denison (1990) identified four elements of organizational culture model (a) Involvement, (b) Consistency, (c) Adaptability, and (d) Mission. The four organizational culture model elements are essential in developing and maintaining an effective organizational culture in the organization (Akpa, Asikhia, & Nneji, 2021). According to Denison Consistency and Involvement are internal factors necessary for developing effective organizational culture which include transparency, strong interpersonal relational and employee-focused leadership while Mission and Adaptability are external factors vital for maintaining an effective organizational culture & all the four traits are what Denison hypothesized and stated they are the principles by which organization's culture influences effectiveness (Asikhia Olalekan U et.al, 2020).

Schein's Model of organizational culture

The theory consists of three domains: basic underlying assumptions, espoused values, and artifacts. Artifacts are the surface level of an organizational culture, tangible, easily seen and felt which are manifested in the products, physical environment, language, technology, clothing, myths and stories, published values, rituals and ceremonies of the organization. Espoused beliefs and values include strategies, goals, shared perceptions, shared assumptions, norms, beliefs and values instilled by founders and leaders. Basic underlying assumptions are the base level of organizational culture, and are the deeply-embedded, unconscious, taken for granted assumptions that are shared with others any challenge of these assumptions will

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result in anxiety and defensiveness which will affect the stability that is necessary for good performance. Strong values in terms of clear goals and strategies is undeniably required for good performance while and organization lacking in this aspect, manifest poor performance attributes. This theory suggests that the basic artifacts, espoused values and underlying assumptions should be reflected in an organizational culture so as to promote organizational performance (Akpa, Asikhia, & Nneji, 2021).

Hofstede Model of organizational culture

This model sees culture as a programming of the mind which categories members of the organization in difference sections. Hofstede sectionalized culture into four difference levels which are symbols, heroes, rituals and values. The carrying out of finding on these four sections of Hofstede model is very difficult for the managers in the organization as this is the life wire of that connects the achievement of the organizational set target (Anozie Obinna & Ismail Nizam, 2016).

Value stands as the life of culture in the organization, value cannot do without ethics and moral identity ability of the employees to be creative on the task to be carried out and are able to find out if it suites both the employees and the employers (Anozie Obinna & Ismail Nizam, 2016). Furthermore, Symbols are words, gestures, pictures or objects that carry a particular meaning within a culture. Heroes are persons, alive or dead, real or imaginary, who possess characteristics highly prized in the culture and who thus serve as models for behavior. Rituals are collective activities that are technically superfluous but are socially essential within a culture, and can be considered to be carried out for their own sake (Mariama Zakari, Kofi Poku & Wilberforce Owusu-Ansah, 2013).

Denison's organizational culture model link to performance

The Denison's Model of Culture and Effectiveness (Denison, 1990) presents the interrelations of an organization's culture, its management practices, its performance and its effectiveness. It highlights the importance of linking management practices with underlying assumptions and beliefs when studying organizational culture and effectiveness. The values and beliefs of an organization give rise to a set of management practices, which are concrete activities usually rooted in the values of the organization. These activities stem from and reinforce the dominant values and beliefs of the organization. Two unique features make the Denison Model and Solutions stand out beyond all the rest: sound research principles and proven link to organizational performance. The Model provides organizations with an easy-to-interpret, business-friendly approach to performance improvement based on sound research principles (DenisonConsulting.com).

The Model links organizational culture to organizational performance metrics such as Sales Growth, Return on Equity (ROE), Return on Investment (ROI), Customer Satisfaction, Innovation, Employee Satisfaction, Quality and more. The Denison Model and Survey: Is rooted in a strong research foundation, Offers proven reliability and validity, Provides results compared to a normative, benchmarking database & Ties survey results to bottom-line performance metrics through statistical analysis (DenisonConsulting.com).

EMPIRICAL REVIEW

According to the study of (Sri Handari, Achmad, Eka and Dodi, 2019), analysis of organizational culture with Denison's model approach for international business

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competitiveness, the study applies Denison's organizational culture model with four dimensions: Involvement, Consistency, Adaptability, and Mission. The Sample size includes 248 working people at four star hotels with various positions that are managers, supervisors and employees. The results of the study found that international hotel chains have the power to carry out internal alignment as a strategy to increase competitiveness through employee empowerment programs, team orientation, skills development, and alignment of work values. The results of the study illustrate the importance of internal and external dimension Consistency for international business competitiveness (Wu & Chen, 2012).

Similarly, based on the study of (Yoginder, Dr. Rajbir, & Dr. Bhajan, 2016) Measurement of Culture & Organizational Effectiveness– a Study of Firms in India, measuring perceptual indicators of employees working in Indian firms. The study adopts questionnaire where responses of employees of 134 Indian firms from NSE 500 were analyzed using step wise approach of structural equation modeling. The study reveals high construct validity and reliability of measurement model of culture and organizational effectiveness (Zakari et al., 2013).

In addition, on their study of the impact of organizational culture on organizational performance in Malaysian Logistics companies 150 usable questionnaires were used in the statistical analysis representing a response rate of 75% from the sample, Denison's organizational culture was related to organizational performance and indicated of a significant impact on organizational performance. Also found that Involvement emerged as the most important aspect of organizational culture that affected organizational performance. Conclusion: Four components of organizational culture namely Involvement, Consistency, adaptation and Mission are pivotal in enhancing organizational performance. Based on the study of organizational Culture and organizational performance, the analysis was based on 296 respondents from various departments with varied positions. The study revealed that though there were significant differences among the banks in terms of the organizational Culture Traits, there were no significant differences among them with regards to Performance. Apparently, none of the banks is more innovative than the others. Overall, there was a positive relationship between organizational Culture and Performance in the Banking Industry in Ghana. In all cases, Mission was the Culture Trait with the strongest potential of impacting positively on Performance (Wahyuningsih et al., 2019).

Also, on their study of validation of Denison's model of organizational culture and effectiveness in the Indian context, the results, besides finding a strong support for the DOCS model, indicated that of the four cultural traits studied- Involvement, Adaptability, Mission, and Consistency, Mission was found to be a single most cultural trait responsible for a number of bottom-line performances. On their study from sample size 480 questionnaires, a total of 226 questionnaires were returned out of which only 212 were usable for data analysis. Furthermore, on their study of Organizational culture and firm effectiveness: examines the effects of four major organizational culture traits, Involvement, Consistency, Adaptability, and Mission, on measures of firm effectiveness, using data collected from manufacturing firms in Turkey. The four cultural traits have superior firm performance and Mission trait is the most prominent of the four traits in terms of fostering overall firm performance. In addition, a firm's ability to develop successful new products is influenced primarily by the Adaptability and Consistency traits. Employee satisfaction is determined for the most part by the Involvement trait. In these studies 1176 usable questionnaires are collected from different manufacturing firms (Sullivan et al., 2023).

Conceptual Framework

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The research study proposes a conceptual framework design that examines impact of organization culture on organizational performance. The framework includes four key dimensions from the organizational culture as an independent variables and organizational performance as dependent variable. The following conceptual framework for this specific study is developed based on the Denison Organizational Cultural Model (Figure 1).

FIGURE 1
CONCEPTUAL FRAMEWORKS

RESEARCH METHODOLOGY

Population and Sampling Design

According to data from HR department of EMPDE, there are 166 total employees and managers having at least diploma holder i.e. the total population for this study is 166 individuals. Yaro Yamane (1967) provides a simplified formula to calculate sample sizes.

The formula is: n = N / [1 + N (e) 2]

Where; n = the sample size, N = the finite population, e = the level of significance or limit of tolerable error, 1 = unit or a constant. Therefore, a total population of 166, with a tolerable limit of error or the level of significance at 0.05, using the above formula, the sample size would be determined by:

n = 166/ [1 + 66 (0.05)2] =117, so the sample size for this study was 117 populations (respondents).

Data Source and Collection Method

The primary data collected through standard questionnaires of organizational culture from Denison organizational culture survey and the organizational performance indicators from different empirical literatures Kosiom et.al (2024)), Adigbole et.al (2022), Chen(2012), Avila (2022), Mohammed (2022), Lwesya & Mwakasangula (2023), Sullivan (2023), Cherop (2023), Velyako & Musa (2023) distributed to employees and managers of EMPDE and secondary data obtained from enterprise published reports, journals and enterprise websites (Prakasa et al., 2020).

Data Analysis Method

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For this study, qualitative data analysis approach method used to analyze the collected data. From statistical analysis both descriptive and inferential statistics was discussed. In the inferential statistics analysis correlation analysis, linear, multiple, stepwise and bivariate regression analysis examined. The study conducted and analyzed based on SPSS software (Singh & Masuku, 2014).

Validity and Reliability

The scales of the Denison organizational culture survey have been examined using reliability analysis, confirmatory factor analysis and predictive validity measures (Table 1 & Table 2). These analyses indicate scientifically acceptable levels of Consistency within scales (Denison consulting.com).

Table 1
CRONBACH'S ALPHA RELIABILITY

Variable	Cronbach's Alpha	N of Items
Involvement	.826	12
Consistency	.904	12
Adaptability	.914	12
Mission	.878	12
Organizational Performance	.871	33

Table 2
CRONBACH'S ALPHA FOR CULTURE

Total Cronbach alpha for culture elements		
Cronbach's Alpha	Cronbach's Alpha based on standardized Items	N of Items
.956	.956	48

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

The total number of respondents (employees and managers of EMPDE) who participated in the survey was 117 but the effective data respondents for this study is 102 i.e. response rate is 87.18%. In the following will discuss the results of descriptive and inferential statistics (Ratnasari et al., 2023).

Descriptive Analysis

Table 3
MEAN SCORE OF CULTURE TRAITS

Organizational culture traits	Mean Score
Involvement	3.9011
Consistency	3.6074
Adaptability	3.5395
Mission	4.1556

In order to identify which cultural trait is dominant in EMPDE, referring table 3 the Mean value of the organizational culture trait and the twelve cultural indexes observed. From the four organizational cultural traits Mission trait have the largest mean which are 4.1556; the next biggest mean was 3.9011 for Involvement, 3.6074 for Consistency and 3.5395 for

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Adaptability in descending order. From the above tables, we conclude that in this particular study the dominant cultural trait for the enterprise was Mission (Ibidunni & Agboola, 2013).

Pearson Correlation Analysis

To determine the relationship between Denison`s cultural traits a Pearson Correlation Coefficient is conducted with the result shown in the table 4 below. There is a strong positive significant and moderate correlation relationship between all the cultural traits. Involvement and Adaptability have a strong relationship (P<0.05) with r=0.750. Involvement and Consistency also have a strong relationship (P<0.05) with r=0.705. Involvement and Mission have a moderate relationship (P<0.05) with r=0.597. Consistency and Adaptability have a strong relationship (P<0.05) with r=0.717. Consistency and Mission have a moderate relationship (P<0.05) with r=0.517. Adaptability and Mission have a moderate relationship (P<0.05) with r=0.585. Although the result shows there is a strong relationships between some of cultural traits, the relationship between Involvement and Adaptability is the strongest one, with a correlation coefficient of r=0.750. We conclude that for this study the relationship between Denison's cultural traits very strong and moderate.

Table 4
CORRELATION ANALYSIS MATRIXES

		Involvement	Consistency	Adaptability	Mission	Organizational performance indicators
Involvement	Correlation de Pearson	1	.705**	.750**	.597**	.609**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	102	102	102	102	102
Consistency	Correlation de Pearson	.705**	1	.717**	.517**	.613**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	102	102	102	102	102
Adaptability	Correlation de Pearson	.750**	.717**	1	.585**	.596**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	102	102	102	102	102
Mission	Correlation de Pearson	.597**	.517**	.585**	1	.680**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	102	102	102	102	102
Organizational performance indicators	Correlation de Pearson	.609**	.613**	.596**	.680**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	102	102	102	102	102

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

Checking the assumption of Linear Regression

Test of Normality

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A Q-Q plot, short for quantile-quantile plot, is a type of plot that we can use to determine whether or not the residuals of a model follow a normal distribution. If the points on the plot roughly form a straight diagonal line, then the normality assumption is met. The figure 2 shows, histogram indicates the data follows a normal distribution.

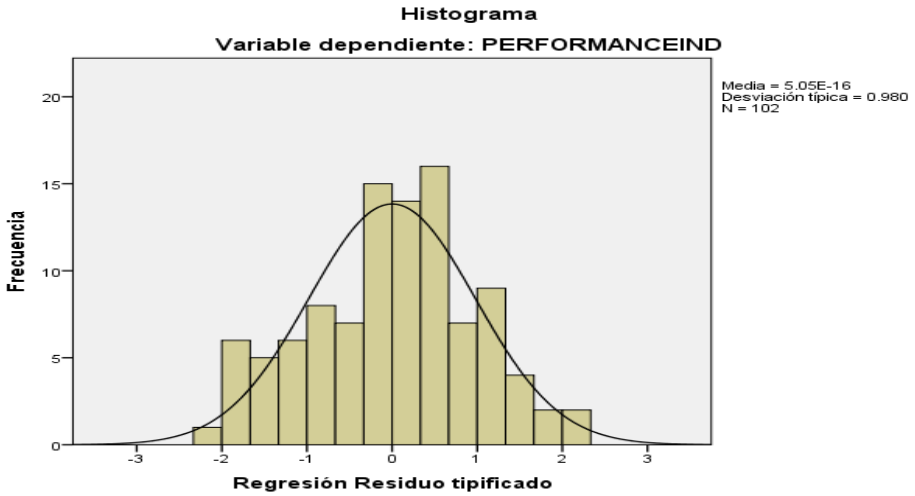

FIGURE 2
HISTOGRAM NORMALITY TEST

One-Sample Kolmogorov-Smirnov Test

Table 5
KOLMOGOROV SMIRNOV TEST

		Involvement	Consistency	Adaptability	Mission	Performance Indicators
N		102	102	102	102	102
Normal Parameters[a,b]	Mean	3.9011	3.6072	3.5388	4.1546	3.8178
	Std. Deviation	.44634	.60142	.64746	.48936	.44930
Most Extreme Differences	Absolute	.100	.106	.094	.146	.109
	Positive	.100	.105	.094	.073	.108
	Negative	-.081	-.106	-.079	-.146	-.109
Z de Kolmogorov-Smirnov		1.006	1.070	.947	1.474	1.098
Asymp. Sig. (2-tailed)		.264	.203	.331	.026	.179

a. Test distribution is Normal.
b. Calculated from data

From table 5, the P value in Kolmogorov-Smirnov test for Involvement, Consistency and Adaptability and organizational performance is 0.264, 0.203, 0.331 & 0.179 respectively > 0.05; which leads to accepting the null hypothesis, which is the variables follow a normal distribution (Gavric et al., 2016). While only Mission traits have a P value < 0.05, which is 0.026 that lead to rejecting the null hypothesis such that these variable have non normal distribution.

Test of Linearity

The easiest way to detect if this assumption is met is to create a scatter plot of dependent vs. independent variable. This allows you to visually see if there is a linear relationship between the two variables. If it looks like the points in the plot could fall along a

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straight line, then there exists some type of linear relationship between the two variables and this assumption is met (Figure 3).

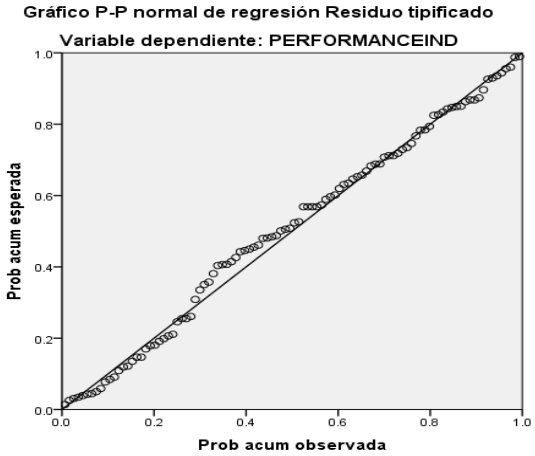

FIGURE 3
CUMULATIVE P-P PLOTS FOR ALL VARIABLES

The above P-P plot shows the data follows a normal distribution.

Test of Multicollinearity

Collinearity is a data issue that arises if two independent variables are highly correlated. Multicollinearity occurs if more than two independent variables are highly correlated. Perfect (multi)Collinearity occurs if we enter two (or more) independent variables with exactly the same information in them i.e., they are perfectly correlated (Marko Sarstedt and Erik Mooi, 2014). Fortunately, Collinearity is relatively easy to detect by calculating the tolerance or VIF (Variance Inflation Factor). A tolerance of below 0.10 indicates that (multi) Collinearity is a problem (Table 6). The VIF is just the reciprocal value of the tolerance. Thus, VIF values above ten indicate Collinearity issues (Marko Sarstedt and Erik Mooi, 2014).

Table 6
MULTICOLLINEARITY TEST

Model		Unstandardized Coefficients		Standardized coefficients	t	Sig.	95.0% confidence interval		Collinearity statistics	
		B	Std.Error	Beta			Lower band	Upper band	Tolerance	FIV
1	(Constant)	.834	.303		2.752	.007	.232	1.435		
	Involvement	.115	.113	.114	1.022	.309	-.109	.339	.356	2.808
	Consistency	.190	.077	.254	2.460	.016	.037	.343	.419	2.385
	Adaptability	.049	.078	.071	.630	.530	-.106	.205	.351	2.852
	Mission	.403	.079	.439	5.077	.000	.246	.561	.597	1.675
a. Variable dependent: Financial, Market Share ,Customer and Innovation										

The SPSS output shows the tolerance and VIF value for each predictor. The tolerance values range between 0.351, 0.356, 0.419 and 0.597 which is greater than 0.01 and the VIF values are 1.675, 2.385, 2.808 and 2.852 which are moderately correlated. So that, no multicollinearity issues in this study (Lwesya & Mwakasangula, 2023).

The Durbin-Watson Test

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The Durbin Watson (DW) statistic is a test for autocorrelation in the residuals from a statistical model or regression analysis. The Durbin-Watson statistic will always have a value ranging between 0 and 4. A value of 2.0 indicates there is no autocorrelation detected in the sample. Values from 0 to less than 2 point to positive autocorrelation and values from 2 to 4 mean negative autocorrelation (Will Kenton, 2024).

Table 7
DURBIN-WATSON TESTS

Model	R	R Square	Adjusted R Square	Standard Error of the estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.753[a]	.567	.549	.30186	.567	31.691	4	97	.000	1.608

a. Variables predictors: (Constant), Mission, Consistency , Involvement, Adaptability
b. Variable dependent: organizational performance

According to Will Kenton (2024), the Durbin-Watson statistics should be between 0 & less than 2 for positive autocorrelation. A rule of thumb is that DW test statistic values in the range of 1.5 to 2.5 are relatively normal (Cascio, 2014). Table 7 shows that Durbin-Watson result is 1.608, which falls within the recommended range for independent observations. This is no concern of autocorrelation in this study.

Homoscedasticity

The assumption of homoscedasticity (meaning "*same variance*") is central to linear regression models. Homoscedasticity describes a situation in which the error term (that is, the "*noise*" or random disturbance in the relationship between the independent variables and the dependent variable) is the same across all values of the independent variables. Heteroscedasticity (the violation of homoscedasticity) is present when the size of the error term differs across values of an independent variable (Statistics Solutions, 2013).

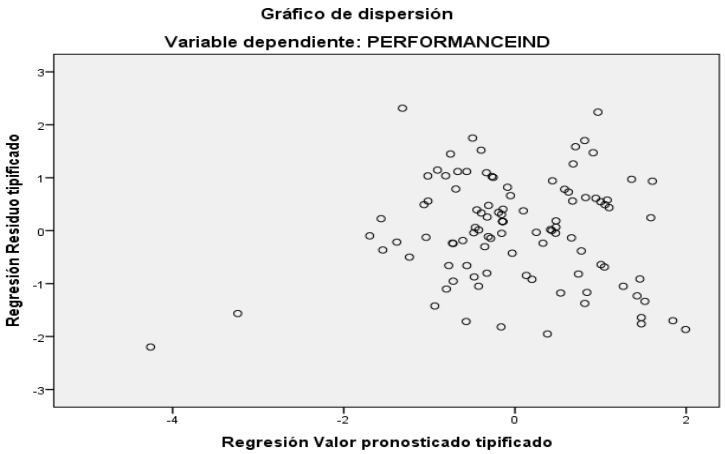

FIGURE 4
SCATTERS PLOT HOMOSCEDASTICITY

From the scatter plot, the data is randomly distributed to the right, the relationship between the independent variables and the dependent variable is the same across all values of the independent variables (Figure 4).

Linear regression analysis

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Analysis of variance (ANOVA) is a statistical tool used to detect differences between experimental group means. ANOVA is warranted in experimental designs with one dependent variable that is a continuous parametric numerical outcome measure, and multiple experimental groups within one or more independent (categorical) variables (Steven Sawyer, 2009). According to table 8 ANOVA F-test, the linear regression's F-test has the null hypothesis that there is no linear relationship between the two variables (in other words $R^2=0$). With F = 31.691, P<0.05 and 101 degrees of freedom the test is highly significant, thus we can assume that there is a linear relationship between the variables in our model (Table 8).

Table 8
ANOVA TEST

Model		Sum of Squares	df	Mean square	F	Sig.
1	Regression	11.550	4	2.888	31.691	.000[b]
	Residual	8.838	97	.091		
	Total	20.389	101			

a. Variable dependent: Financial, Market Share ,Customer and Innovation
b. Variables predictors: (Constant), Mission, Consistency , Involvement, Adaptability

Multiple Regression Analysis

Coefficient of determination

The coefficient of determination (R2) is used for judging the goodness of fit in a linear regression model. It is the square of the multiple correlation coefficients between the study and explanatory variables based on the sample values (Cheng et al., 2014).

Table 9
COEFFICIENT OF DETERMINATION

Model	R	R Square	Adjusted R Square	Standard Error of the estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.753[a]	.567	.549	.30186	.567	31.691	4	97	.000

a. Variables predictors: (Constant), Mission, Consistency , Involvement, Adaptability

R2 is the coefficient of determination of the two variables which shows the percentage of total variation of the dependent variable explained by the independent variable (Table 9). R2 = 0.567 (56.7%), it shows 56.7% variation in dependent variable (performance) are explained by independent variables (culture traits).

Regression Coefficients

Regression analysis is used to produce an equation that will predict a dependent variable using one or more independent variables. This equation has the form Y = b1X1 + b2X2 + ... + A , where Y is the dependent variable you are trying to predict, X1, X2 and so on are the independent variables you are using to predict it, b1, b2 and so on are the coefficients or multipliers that describe the size of the effect the independent variables are having on your dependent variable Y, and A is the value Y is predicted to have when all the independent variables are equal to zero (Princeton University, 2007). From table 10 independent variables (Involvement, Consistency, Adaptability and Mission) are constant at zero; the regression constant (B) be 0.834. For every unit increase in Involvement trait, performance will increase by 0.115, for every unit increase in Consistency trait, performance will increase by 0.190, for every unit increase in Adaptability trait; performance will increase

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by 0.049 & for every unit increase in Mission trait, performance will increase by 0.403. Furthermore, Mission and Consistency have significant contribution in predicting organizational performance (β=0.439, P<0.05) and (β=0.254, P<0.05) respectively. Thus, Mission is the most prediction of organizational performance with (β=0.439, P<0.05), followed by Consistency (β=0.254, P<0.05). Furthermore, for every unit increase in Mission trait, organizational performance will increase by 0.403., similarly for every unit increase in Consistency trait organizational performance increase by 0.190. Therefore, Mission cultural trait most influencer than the other predictors. However, the P value for Involvement and Adaptability is 0.309 >0.05 and 0.530 >0.05 respectively. That means Involvement and Adaptability cultural traits statistically insignificant impact on predicting dependent variable.

Table 10
REGRESSION COEFFICIENTS

Model		Unstandardized Coefficients		Standardized coefficients	t	Sig.	Collinearity statistics	
		B	Std.Error	Beta			Tolerance	FIV
1	(Constant)	.834	.303		2.752	.007		
	Involvement	.115	.113	.114	1.022	.309	.356	2.808
	Consistency	.190	.077	.254	2.460	.016	.419	2.385
	Adaptability	.049	.078	.071	.630	.530	.351	2.852
	Mission	.403	.079	.439	5.077	.000	.597	1.675

Stepwise Regression

Mission & Consistency had significant positive impact on predicting organizational performance from above analysis. Stepwise regression analysis used to further analyze the individual impacts of each cultural trait on organizational performance.

Table 11
MODEL SUMMARIES STEPWISE MISSION

Model	Model	R	R Square	Adjusted R Square	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.680[a]	.463	.458	.33091	.463	86.194	1	100	.000
a. Variables predictors: (Constant), Mission									

Table 12
MODEL SUMMARIES STEPWISE MISSION AND CONSISTENCY

Model	Model	R	R Square	Adjusted R Square	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.680[a]	.463	.458	.33091	.463	86.194	1	100	.000
2	.746[b]	.556	.547	.30243	.093	20.722	1	99	.000
a. Variables predictors: (constant), Mission b. Variables predictors: (constant), Mission, Consistency									

From table 11, Mission cultural traits impacts (predict) organizational performance by R2=0.458 i.e. Mission explain organizational performance by 45.8%, P<0.05 in Stepwise regression.

From table 12, Mission cultural traits impacts (predict) organizational performance by R2=0.458, Mission and Consistency together impacts change in organizational performance by (R2=0.547), 54.7.8%, P<0.05 in Stepwise regression. On the first regression1, Mission

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(β=0.680, P<0.05) for every unit increase in Mission cultural trait, organizational performance will increase by 0.625.

From Beta coefficients in stepwise regression table 13, Beta values as follows :(β=0.496, P<0.05) and (β=0.356, P<0.05) respectively. For every unit increase in Mission cultural trait, organizational performance will increase in 0.456 and for every unit increase in Consistency cultural trait, organizational performance will increase in 0.266. The R2 for the stepwise regression in the Model Summary table shows, both Mission and Consistency together predict or explain 54.7% of changes in organizational performance.

Table 13
MODEL SUMMARIES STEPWISE MISSION &CONSISTENCY

Model		Unstandardized Coefficients		Standardized coefficients	t	Sig.
		B	Std.Error	Beta		
1	(constant)	1.223	.281		4.344	.000
	Mission	.625	.067	.680	9.284	.000
2	(constant)	.965	.263		3.663	.000
	Mission	.456	.072	.496	6.346	.000
	Consistency	.266	.058	.356	4.552	.000

Bivariate Regression

On the discussion above we remind that, Involvement and Adaptability have a significant correlation with organizational performance, but are not significant in impacting organizational performance in the multiple regression tests (P 0.309 >0.05) & (0.530 >0.05) respectively, which is greater than 0.05).To check again the impact (predict) of both Involvement and Adaptability on organizational performance bivariate regression analysis used (Table 14).

Table 14
R_2 FOR BIVARIATE INVOLVEMENT

Model	Model	R	R Square	Adjusted R Square	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.609[a]	.371	.365	.35812	.371	58.976	1	100	.000
a. Variables predictors: (constant), Involvement									

From table 14, Involvement cultural traits impacts (predict) organizational performance by R2=0.365 i.e. Involvement explain organizational performance by 36.5%), P<0.05 in bivariate regression.

Furthermore, from the below table 15, Adaptability cultural traits impacts (predict) organizational performance by R2=0.349 i.e. Adaptability explain organizational performance by 34.9%), P<0.05 in bivariate regression.

Table 15
R_2 FOR BIVARIATE ADAPTABILITY

Model	Model	R	R Square	Adjusted R Square	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.596[a]	.355	.349	.36255	.355	55.114	1	100	.000
a. Variables predictors: (Constant), Adaptability									

Citation Information: Yaada, C. H. (2024). Impact of organizational culture on organizational performance (a case on educational materials production and distribution enterprise (Empde). *Academy of Strategic Management Journal, 23*(6), 1-18.

SUMMARY OF FINDINGS

On inferential statistics correlation analysis was tested and the result shows there is a strong positive significant & moderate correlation between all cultural traits. However, the relationship between Involvement and Adaptability was the strongest one, with a Pearson correlation coefficient of r=0.750. From cultural traits, Mission have the highest correlation coefficient than others, i.e. r=0.680. To determine the relationship between independent and dependent variables first checked the assumptions of linear regressions (Normality, Linearity, Kolmogorov-Smirnov, multicollinearity, Durbin-Watson and Homoscedasticity) tests done. The test indicates Involvement, Consistency & Adaptability are normally distributed only Mission have non-normal distribution (P<0.05 (0.026)). But cumulative P-P plot of all variables shows no drastic deviations from the normal line. Heteroscedasticity and multicollinearity test result shows the data distribution was homoscedastic and multicollinearity was in the permissible limit (Avila, 2022). In addition Durbin-Watson & ANOVA test, shows Durbin-Watson 1.608 which his in recommended range for independent observations and ANOVA test confirms the independent variables predict the dependent variable, i.e. F=31.691 P<0.05 (0.000).

In addition Multiple regression coefficient of determination shows that the independent variables can explain the changes in the dependent variable with R2=0.567; which indicate 56.7% change on organizational performance was explained by the organizational culture in the model. The regression coefficients showed, Mission and Consistency had significant contribution in predicting organizational performance (β=0.439, P<0.05) and (β=0.254, P<0.05) respectively.

But Involvement and Adaptability are not statistically significant to predict organizational performance in this analysis. To identify, the most impacting cultural trait from Mission and Consistency stepwise regression was conducted and the result revealed Mission explain 45..8% (R2=0.458) of any change in organizational performance. The above result revealed, Mission trait have significant impact on the organizational performance of EMPDE.

Bivariate regression test analyzed for to check the impact of Involvement and Adaptability on performance i.e. not confirmed on multiple regression analysis the result shows (R2=0.365, P<0.05) Involvement explain organizational performance by 36.5% & (R2=0.349, P<0.05) Adaptability explain organizational performance by 34.9%. In addition from Beta values for Involvement (β=0.609, P<0.05) & Adaptability (β=0.596, P<0.05) which are significant and for every unit increase in Involvement trait, organizational performance increase by 0.613. Similarly for Adaptability, for every unit increase in Adaptability trait, organizational performance increase by 0.414.

CONCLUSION

Mission is the dominant cultural trait in the case of EMPDE, with a mean score of 4.1556 & vision was found to be the dominant cultural index, with a mean score of 4.2998. Therefore, Mission cultural trait is the most dominant culture for this enterprise. In addition, in Multiple Regression Coefficient table 1.10 independent variables are constant at zero; the regression constant (B) be 0.834.

Mission and Consistency have significant contribution in predicting organizational performance (β=0.439, P<0.05) and (β=0.254, P<0.05) respectively. Thus, Mission is the most prediction of organizational performance with (β=0.439, P<0.05), followed by Consistency (β=0.254, P<0.05).

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In Bivariate regression analysis Involvement and Adaptability impact (predict) dependent variables by β=0.609, P<0.05 & β=0.596, P<0.05 respectively. Furthermore, from Correlation table 1.4 the result shows: strong relationship between: Involvement & Adaptability, Involvement & Consistency and Consistency & Adaptability with r=0.750, r=0.705 & r=0.717 (P<0.05) respectively. Moderate relationship between: Involvement & Mission, Consistency & Mission and Adaptability & Mission with r=0.597, r=0.517 & r=0.585 (P<0.05) respectively.

Although the result shows there is a strong relationships between some of cultural traits, the relationship between Involvement and Adaptability is the strongest one, with a correlation coefficient of r=0.750. Therefore, there is positive relationship between all the cultural traits.

RECOMMENDATION

As per the conclusions above, recommendations will be put on the strongest and lowest scores results to maximize strongest scores and to improve lower ones for greater efficiency and effectiveness of the enterprise and then suggest points for future studies.

Recommendations for EMPDE

Mission cultural trait is the impacting (predicting) trait in this study.
This implies the enterprise leaders have long term purpose and direction with a clear strategy for the future & employees understand too. In order to handle the current strengths and to improve more the enterprise:

a) Implement effective business strategies to sustain in the business and to maximize profits
b) Communicating employees continuously for their short term & long term objectives of the enterprise for employee productivity
c) Leaders of the enterprise motivate the employees to be a culture in them
d) Make a program to reward employees based on their achievements (contributions) on regular basis to maximize and initiate their performances.

Consistency cultural trait is the second impacting (predicting) trait on organizational performance but mean score is lower than Involvement cultural trait. From these results the enterprise makes an attention on this regard.

a) Core values index have the second minimum mean value score of from 12 indexes. This implies the enterprise makes an improvement on the key dimensions: there will be clear and consistent values govern business practices, there must be accountability when core values are ignored and there will be standard ethical code guides behavior in the enterprise.
b) Furthermore on Agreement & coordination and integration index make improve on creating culture and discussions between employees & managers easily resolve differences by taking enterprise goals & objectives as first priority, to inform employee's common perspectives (understanding) to do work before projects starts across the enterprise.

Involvement cultural trait, have the second higher aggregated mean score, but results show it does not significantly impact organization performance in multiple regression analysis but have impact on bivariate regression analysis.

Adaptability cultural trait have the lowest mean score value from the four cultural traits in the Denison's model and does not significantly impact organization performance in multiple regression analysis but have impact on bivariate regression analysis. That means this cultural traits need much improvement to sustain and to implement demands of external environment

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into action. To be in line with external environment the enterprise makes progress on the following issues: understand the market situations on the outside environment (market intelligence), clearly define current and near & long future market demands, align enterprise goals and objectives based on market demands, technology, manpower and production facility to fulfill customer satisfaction and growth in financial and non-financial basis.

Finally to put final recommendation, since the above results focus only local results, advise EMPDE to take Denison cultural survey analysis with normative database to know the enterprise in which circumplex exactly placed and to take effective corrective actions .

Recommendations for Future studies

This study undertaken by Denison` s Culture traits, for future studies other researchers can apply other models to further examine impact of culture on performance and discuss the results on performance deeply.

This study investigates impact of organizational culture on organizational performance on EMPDE, other researchers study the impact of culture on performance in other manufacturing firms with greater sample size to compare the results, to generalize the findings, to make a strategy at national level for economic growth and development for policy makers of the country and to compare the results by normative database to know where we are in global perspective.

Also other researchers expand the study by entertain variables affecting organizational performance (effectiveness) other than organizational culture to reach a briefer conclusion about impact on performance as a whole for more reliable results.

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Received: 21-Aug-2024, Manuscript No. ASMJ-23-15169; **Editor assigned**: 23-Aug-2024, PreQC No. ASMJ-23-15169(PQ); **Reviewed**: 02- Sep-2024, QC No. ASMJ-23-15169; **Revised**: 09-Sep-2024, Manuscript No. ASMJ-23-15169(R); **Published**: 20-Sep-2024

Citation Information: Yaada, C. H. (2024). Impact of organizational culture on organizational performance (a case on educational materials production and distribution enterprise (Empde). *Academy of Strategic Management Journal, 23*(6), 1-18.