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Organizational culture and employee performance in food processing firms in Southwest Nigeria

The moderating role of transformational leadership

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ABSTRACT

The study investigated organization culture and employee performance in manufacturing firms in sub-Saharan Africa: the moderating role of transformational leadership. A survey research design was adopted. The study population consisted of 4,371 employees. A multistage sampling procedure was utilized. The primary data were collected by using a structured questionnaire and were analyzed using SmartPLS 4. Descriptive statistics and PLS-SEM were used to evaluate the measurement and structural models. The findings revealed that employee orientation, communication patterns, and work discipline significantly and positively influenced employee satisfaction. Furthermore, transformational leadership significantly moderated the relationships between employee orientation and employee satisfaction and between work discipline and employee satisfaction, while its moderating effect on communication patterns and employee satisfaction was not significant the study concluded that the combination of the supportive organizational culture with transformational leadership contributes to improving employee satisfaction. The study recommended that management should focus on strengthening employee-centered practices, introducing better organizational communication and discipline of working, and building transformational leadership skills.

Keywords organizational culture; employee performance; employee orientation

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1. Introduction

Culture is a significant determinant of various organizational phenomena among employees and their relationship to performance (Bogale & Debela, 2024). Organizational culture is the shared norms, assumptions, attitudes, and practices that shape relations and how employees work within an organization (Mogård et al., 2022) . Therefore, it is essential to establish and strengthen a good corporate culture for reorienting employees towards the organizational goals to increase their efficiency and the performance of the organization in today's competitive business environment (Monira et al., 2024). Shared vision and values are one of the key ways that organizational culture affects employee performance. This leads the organization's core values to be adopted by its members, and due to this, the employees promised to have higher levels of organizational commitment, political interest, and political efficacy in their work. This alignment leads towards the goal of what employees should be doing by organizing the company to act in a way that will motivate the stakeholders. An idea related to this is that organizations with developed cultures also have high levels of employees' engagement, which in

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turn affects organizations' performance positively and stabilizes their turnover rates (Musheke & Phiri, 2021; Naveed et al., 2022).

It also takes a very important role of explaining employee behavior and attitude on organizational culture. It depends on how and with whom the employees interact in the process of performing their tasks according to the culture (Bogale & Debela, 2024) . Team-oriented and innovative cultures that foster the remnants of the learning organization empower people and encourage them to act in ways that will benefit the organization. However, when the culture is negative (distrust and rigidity), the creativity will be low and the performance too. Staff working in positive organization cultures have higher levels of organizational commitment and satisfaction with their jobs and have higher performance results. The relationship between leadership style, organizational culture, and, thereby, employee performance is well connected. Managers encourage the culture that they wish and ensure employees behave in a certain way through their actions. For instance, a culture promoting the use of transparency implicates that it is backed by leaders who encourage interaction and the participation of everyone. It does not only enhance the organization's culture but also assists in improving the morale and, in extension, the performance of the employee (Akpa, 2021; Khan et al., 2020) .

Furthermore, on the issue of promoting trust and psychological safety at the workplace, organizational culture has a very central role to play. Recognitions, self-organized teams, psychological safety, and lack of punishment help to increase employee productivity and creativity during work. Organizations with cultures that promote a sense of security in the psychological sense have better work productivity (Mogård et al., 2022) . Psychological safety is maintained, and organizational teams and outcomes are better. Organizational communication is another problem that affects organizational culture, as it affects employees' performance. Most aspects of organizational culture start with communications, as this is the channel through which all key information has to reach the employees. An organizational culture that supports the free flow of communication in the organization is healthy, as it breeds confidence and cooperation, resulting in high levels of performance (Didion et al., 2024; Musheke & Phiri, 2021).

Furthermore, the organizational culture is a factor that defines the change flexibility and persistence of employees in the processes of change. This situation happens when entities have embraced the culture of flexibility and adaptability and are better prepared to address the challenges that surface in the rapidly increasing businesses (Umuteme & Adegbite, 2023). In employee-oriented organizational cultures, the employees are likely to change their behavior, acquire new techniques, and adapt to the forthcoming organizational business requirements, thus improving on their performance (Mogård et al., 2022). In the competitive global market, changing culture plays an important role in sustaining high performances among companies. Reward and recognition systems are important practices that can influence the degree to which organizational culture can act as a mediator between organizational reward policies and employee performance. Positive culture promotes the right behaviors, and the Quest organization culture ensures that employees work hard to meet and deliver quality services. In this case, incentive programs, which are in the form of financial motivating factors, promotions, or awards, are some of the ways used in encouraging the right behavior as a way of improving performance. On the other hand, lack of inherent or inconsistent recognition leads to poor performance by employees (Khawand et al., 2022). The main objective of this study is to examine organizational culture and employee performance in manufacturing firms in sub-Saharan Africa: the moderating role of transformational leadership, while the specific objectives are to evaluate employee orientation on employee satisfaction, investigate the impact of communication patterns on employee satisfaction, and determine the impact of work discipline on employee satisfaction. The research questions and research hypotheses are related to the research aims.

According to (Monira et al., 2024), organizational culture is defined as the values, beliefs, and activities that are characteristic of one organization. Its projected organizational image defines how employees and other stakeholders refer and/or respond, how decisions are made, or how tasks are to be accomplished. This culture serves as an umbrella for the alignment of activities, starting from business processes and tasks that are common for working days up to strategic goals and vision that will be valid for many years to come. Organizational culture, therefore, plays a significant role in the way it brings together the members of an organization with a common goal and a sense of belonging to the

organization, and their movement is contained within the specified organizational structures (Akpa, 2021). The origins of the development of organizational culture lie in history, leadership, and environment. Organizational values and expectations are set and modeled at the founder and executive levels, which is the first culture (Graham et al., 2022). They gradually introduce these elements to the operation of an organization and make a significant contribution to the creation of an organization's special organizational culture. Culture gives a kind of connectedness and character, which in certain organizations is a key for endurance (Indarto, 2024).

The orientation of an organization is one of the most important practical parts of employment whereby the employee learns about the culture, vision, and attitude towards work that is adopted in the organization (Naveed et al., 2022). It forms the core of how they develop knowledge about the organization and thus significantly affects the perceptions they are likely to develop about the organization during their initial times at work. The orientation programs are designed to help the new staff become familiar with the new environment, adjust to the organizational culture, and introduce them to the people around them. The orientation period is important since it paves the way for subsequent behaviors and levels of productivity and contentment. An effective orientation program does not only encompass the administrative practices and fulfillment of paperwork and learning organizational protocols and policies. It also implies that a proper and comprehensive induction program should be provided to inform about the culture of the organization, including its mission and values and the standards of behavior expected from employees (Kim & Jung, 2022) . Through integrating cultural practices into the orientation process, organizations make sure that such values are adopted from the gateway, and the newcomers are in harmony with the organizational objectives (Liao et al., 2022) .

Communication reflects the organizational culture and plays a key role in the output among employees (Rabbad et al., 2024) . Communication is the representation of the transmission of information across the different parts of an organization to support decision-making and communication between employees (Musheke & Phiri, 2021) . The openness of the communicational process may be open to all in the organization or rather limited within the organizational structure, either positively or negatively affecting the organizational goals. In an orientation where assertive communications are used, the employees are more likely to feel empowered with information, be valued, or feel involved with the organization (Umuteme & Adegbite, 2023) . The flow of communication in a particular organization is influenced by its culture, both formal and informal. Formality and authority are key elements in communication culture, with the recipients typically being the formal and authoritative channels of an organization. This can result in the centralization of decision-making and the creation of organizational barriers that the average employee won't want to break down. On the other hand, cultures characterized by openness and collaboration more likely have unstructured communication where information is diffused by all organizational members and ideas are generated and problems are solved very quickly (Alkhodary, 2023) .

Organizational culture is a crucial element because work discipline, which is essential in determining the conduct and performance of employees, originates from organizational culture. Discipline is defined as the ability to follow organizational requirements and establish a structure supported by employees, which ensures stability in their behavior and performance (Khan et al., 2020). Policies are best developed when an organization has a strong and healthy culture since they bring discipline to employees by making them understand some rules to adhere to. This discipline is crucial to minimize any irregularity and vandalism and create a conducive environment to enhance productivity (Men et al., 2021; Purwanto et al., 2023). An intervention involving discipline within an organization's statutory framework is an integral part of its culture. As much as democracy and respect for authority shape the disciplinary measures adopted by the cultures of most countries, particular emphasis is placed on correction as opposed to punishment (Musheke & Phiri, 2021) . All these cultures contribute to a positive culture at the workplace; they make the employees aware of the errors they make so that they may do the right thing. On the other hand, cultures with high power distance and high uncertainty avoidance require discipline in stricter manners, which may lead to an environment of fear among the employees and poor creativity and innovation (Naveed et al., 2022) .

Employee performance is one of the organizational results indicating how aspects of organizational culture such as values, communication, and work discipline influence employee performance (Graham et al., 2022) . Employee performance is an organizational result that paints a picture of how aspects of organizational culture such as values, communication patterns, and work discipline affect the performance of the employees. While performance entails the manner in which the employees are able to achieve their roles and organizational goals and deliver the expected outputs. Organizational culture is a term that describes the strength and positivity of the company culture, which leads to high performance, as it is able to influence the employees' behavior to achieve the organizational goals and mission. In a world where employees have realized and contribute to the organizational culture, they will be willing to work, show commitment, and perform well. The research also shows that the organizational culture is in the center of the employee's motivation and satisfaction. Translation into an organizational culture that addresses employees' welfare and their interpersonal reward, with a focus on their training and appreciation, leads to high levels of job contentment that enhance performance (Indarto, 2024). It is equally apparent when the culture itself is poisonous or unfriendly to the real values of employees and the organization, such as low morale, apathy, and below-par productivity. Thus, individuals who are not in touch with the organizational culture or the organizational environment that is conducive to meeting their needs and/or developmental needs are likely to underperform (Ghany, 2022).

The hypothesis in this study is:

H1: Employee orientation has a positive effect on employee satisfaction.

H2: Communication patterns have a positive effect on employee satisfaction.

H3: Work discipline has a positive effect on employee satisfaction.

H4: Transformational leadership positively moderates the relationship between employee orientation and employee satisfaction.

H5: Transformational leadership positively moderates the relationship between communication patterns and employee satisfaction.

H6: Transformational leadership positively moderates the relationship between work discipline and employee satisfaction.

2. Research Method

The study was carried out in Southwest Nigeria in 2026 to investigate the effect of organizational culture on the employees' performance of the selected food processing firms with transformational leadership as a moderator. Although the study is situated within the broader context of manufacturing firms in Sub-Saharan Africa, Southwest Nigeria was selected because it is one of the leading industrial regions in Nigeria and hosts a high concentration of food processing companies, making it an appropriate setting for the study.

The study adopted a survey research design. The survey design was considered appropriate because it enables the collection of standardized data from a large number of respondents through a structured questionnaire. It is suitable for examining relationships among variables based on respondents' perceptions and experiences while allowing the findings to be generalized to the target population when appropriate sampling procedures are employed. The target population comprised 4,371 employees of selected food processing companies in Southwest Nigeria. The sample size was determinate using Slovin's sampling formula at a 5% margin of error (Hair et al., 2022), arriving at 367 respondents.

A multistage sampling technique was employed. Purposive sampling was adopted at the first stage in the selection of food processing companies in Southwest Nigeria due to their relevance and their successful operation in the manufacturing sector. To ensure a representation of the employees in the selected companies, the second stage of the sampling was stratified sampling. During the third stage,

simple random sampling was employed to draw required respondents from each stratum in a proportionate manner, that is, each employee had an equal chance of being selected for the study.

A structured questionnaire that measures employee orientation, communication patterns, work discipline, transformational leadership, and employee satisfaction was used to obtain primary data. The questionnaire had two sections. The study variables were measured on Section B, which recorded the demographic information of the respondents in Section A. The measurement items were selected based on those reported in the literature for previously validated instruments. Responses were on a 5-point Likert scale (ranging from 1 = Strongly Disagree to 5 = Strongly Agree).

The questionnaire was administered to the selected respondents after obtaining the necessary approval from the management of the participating food processing companies. Before administration, the purpose of the study was explained to the respondents, and informed consent was obtained. Respondents were assured that the information provided would be treated with strict confidentiality and used solely for academic purposes.

The collected data were analyzed through descriptive and inferential statistics via Partial Least Squares Structural Equation Modeling (PLS-SEM) SmartPLS 4. The measurement model was evaluated using indicator loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), the Fornell-Larcker criterion, and the heterotrait-monotrait (HTMT) ratio. The structural model was evaluated using path coefficient, coefficient of determination (R^2), model fit indices, effect size (f^2), predictive relevance (Q^2), variance inflation factor (VIF), and bootstrapping procedures for testing the study hypotheses (Hair et al., 2022).

Ethical aspects were adhered to in the study. Respondents were assured of anonymity and confidentiality; the questionnaire was administered after giving informed consent to all respondents, and respondents had the option of withdrawing from the study at any time without repercussions. All information obtained was used strictly for academic purposes.

The conceptual framework of this study examines the influence of organizational culture dimensions (employee orientation, communication patterns, and work discipline) on employee performance, measured by employee satisfaction, among employees of selected food processing companies in Southwest Nigeria. The framework was expanded to incorporate transformational leadership as a moderating variable to test the impact it has on the relationship between each of the dimensions of organizational culture and employee satisfaction. The framework integrates transformational leadership, thus offering a wider perspective on the mechanisms that make organizational culture exert an effect on the performance of employees in the food processing sector.

3. Result

Table 1 presents a total of 367 questionnaires that were distributed to employees of the selected food processing companies in Southwest Nigeria. Out of these, 350 questionnaires were successfully completed and returned, while 17 questionnaires were not returned. This gives rise to a 95.37% response rate that is adequate for statistical analysis and PLS-SEM.

Table 1 Response rate

Response Category	Frequency	Percentage (%)
Questionnaires Distributed	367	100.00
Questionnaires Returned	350	95.37
Questionnaires Not Returned	17	4.63

3.1. Demographic Profile of Respondents

Table 2 shows demographic characteristics of the respondents. The results revealed that 186 respondents were male (53.14%), and 164 were female (46.86%), which shows a slight predominance

of male workers. In terms of age, 227 respondents (64.86%) were 41 years and above, 84 respondents (24.00%) were between 31 and 40 years, and 39 respondents (11.14%) were between 18 and 30 years, suggesting that the majority of the respondents were mature employees. As far as years of work experience, 177 respondents (50.57%) had between 6 and 15 years of experience, 114 respondents (32.57%) had less than 5 years of experience, and 59 respondents (16.86%) had 16 years and above, suggesting that most respondents had extensive organizational experience. In addition, Table 4 shows that 157 respondents (44.86%) had MBA/M.Sc. qualifications, followed by HND/B.Sc. (89 respondents, 31.43%), OND/NCE (45 respondents, 12.86%), Ph.D. (45 respondents, 12.86%), and other qualifications (14 respondents, 4.00%). Overall, the demographic profile suggests that the respondents were sufficiently experienced and educationally qualified to give accurate information for the study.

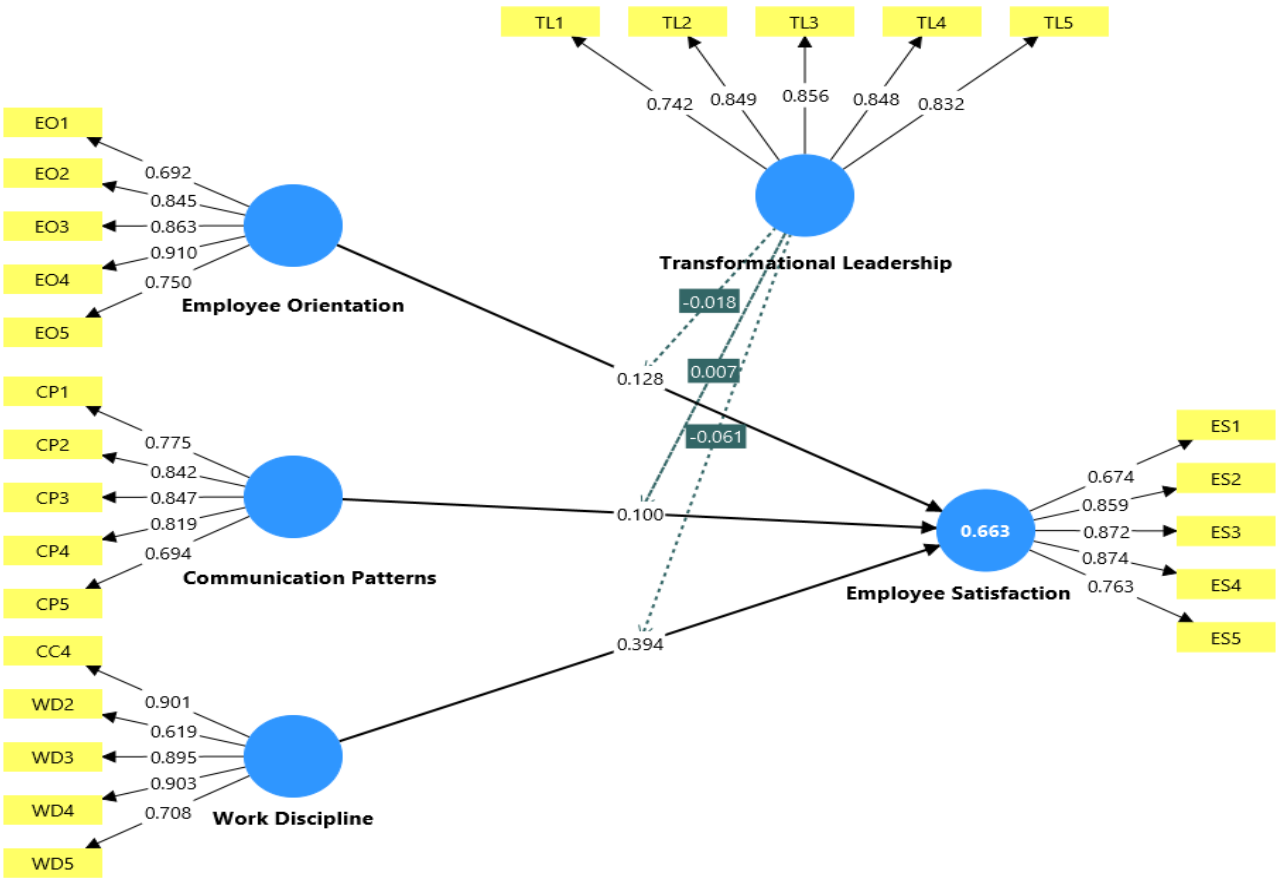
Table 2 Demographic Characteristics

Variable	Respondent Profile	Frequency (n)	Percentage
Gender	Male	186	53.14
	Female	164	46.86
	Total	350	100.00
Age (Years)	18–30	39	11.14
	31–40	84	24.00
	41 years and above	227	64.86
	Total	350	100.00
Years of Experience	Less than 5 years	114	32.57
	6–15 years	177	50.57
	16 years and above	59	16.86
	Total	350	100.00
Educational Background	OND/NCE	45	12.86
	HND/B.Sc.	89	25.43
	MBA/M.Sc.	157	44.86
	Ph.D.	45	12.86
	Others	14	4.00
	Total	350	100.00

3.2. PLS Model Scheme for Organizational Culture, Employee Satisfaction, and Transformational Leadership

The study aimed to investigate the effect of employee orientation, communication processes, and work discipline (exogenous latent variables representing the organizational culture) on employee satisfaction (endogenous latent variable) within manufacturing companies in Sub-Saharan Africa; thus, the PLS-SEM model was developed. The relationship between the dimensions of organizational culture and employee satisfaction was analyzed with the inclusion of transformational leadership as a moderating variable, meaning that it can either enhance or diminish the relationship between the two variables. The model was specified using reflective measurement indicators because the variables observed were conceptualized as indicators of the respective latent constructs. All indicator loadings were greater than the recommended value of 0.70, signifying good indicator reliability and convergent validity. The bootstrapped t-statistics reported in Figure 1 show the statistical significance and strength of the direct and moderating relationships in the structural model, whereas standardized path coefficients indicate the magnitude of the influence of employee orientation, communication patterns, and work discipline on employee satisfaction. The interaction effects further illustrate the transformation of these relationships by either enhancing or diminishing the role of the organizational culture dimensions on employee satisfaction based on the transformational leadership. As a whole, the results in the structural model validate that organizational culture have a significant impact on employee satisfaction and that transformational leadership is a key contextual factor that can affect the strength of the relationships.

Figure 1 PLS Algorithm Results Display



3.3. Convergent Validity

Table 3 shows the convergent validity and reliability statistics. The results show that the loading of all indicators falls within the range of 0.791 to 0.914, which is higher than the recommended value of 0.70. Similarly, t-statistics for all of the bootstrapped relationships between the indicators and their corresponding latent factors were greater than 1.96, and the related p-values were less than 0.05, thus providing evidence for the statistical significance of the relationships between the indicators and the corresponding latent factors. The Average Variance Extracted (AVE) results ranged from 0.672 to 0.792, which is higher than the minimum value of 0.50; thus, the convergent validity was satisfactory. Likewise, the Composite Reliability (CR) values ranged from 0.862 to 0.920, and Cronbach's alpha coefficients ranged from 0.769 to 0.881, which are all above the acceptable threshold of 0.70 (Hair et al., 2022). Based on the results of the measurement model, it can be concluded that the convergent validity and internal consistency reliability of the measurement model are good for all the study constructs.

Table 3 Validity and Reliability of the Measurement model

Variable	Loading Factors	Std. Error	t-statistics.	p-Value	AVE	CR	Cronbach's α
Employee Orientation (EO)	0.842	0.026	32.385	0.000	0.724	0.887	0.816
	0.871	0.021	41.476	0.000			
	0.853	0.029	29.414	0.000			
Communication Patterns (CP)	0.819	0.034	24.088	0.000	0.689	0.869	0.781
	0.847	0.028	30.250	0.000			
	0.832	0.036	23.111	0.000			
Work Discipline (WD)	0.791	0.042	18.833	0.000	0.672	0.862	0.769
	0.835	0.031	26.935	0.000			

Variable	Loading Factors	Std. Error	t-statistics.	p-Value	AVE	CR	Cronbach's α
	0.824	0.035	23.543	0.000			
Employee Satisfaction (ES)	0.896	0.018	49.778	0.000	0.792	0.920	0.881
	0.914	0.014	65.286	0.000			
	0.873	0.021	41.571	0.000			
Transformational Leadership (TL)	0.856	0.030	28.533	0.000	0.741	0.896	0.836
	0.889	0.022	40.409	0.000			
	0.848	0.027	31.407	0.000			
Moderating Effect	1.064	0.071	14.986	0.000	—	—	—

3.4. Discriminant Validity

The Fornell-Larcker criterion was employed to test the discriminant validity of the measurement model, and results are shown in Table 4. The square root of the Average Variance Extracted (AVE) for each construct (asterisked) appears in the diagonal elements, and the inter-construct correlation coefficients appear in the off-diagonal elements. The results show that the square root of the AVE of the constructs is greater than the inter-construct correlations for all rows and columns, which supports the satisfactory discriminant validity. The highest inter-construct correlation was between employee orientation and communication patterns, which was far less than the square root of the AVE values of the respective constructs, indicating that employee orientation, communication patterns, work discipline, employee satisfaction, and transformational leadership are empirically distinct constructs.

Table 4 Discriminant Validity of Variables

Construct	EO	CP	WD	ES	TL
EO	0.851*				
CP	0.486	0.830*			
WD	0.451	0.502	0.820*		
ES	0.547	0.489	0.518	0.890*	
TL	0.132	0.116	0.148	0.095	0.861*

Note. EO = Employee Orientation; CP = Communication Patterns; WD = Work Discipline; ES = Employee Satisfaction; TL = Transformational Leadership. Diagonal entries represent the square root of the Average Variance Extracted (AVE).

3.5. Heterotrait-Monotrait Ratio (HTMT)

The Heterotrait-Monotrait Ratio (HTMT) was further employed to assess the discriminant validity of the measurement model, and the results are presented in Table 5. All HTMT values were below the recommended threshold of 0.85 (Hair et al., 2022), indicating satisfactory discriminant validity among the study constructs. The values of the HTMT ranged from 0.128 to 0.572, indicating that the variables employee orientation, communication pattern, work discipline, employee satisfaction, and transformational leadership constitute empirically different constructs. The highest HTMT value (0.572) was observed between employee orientation and employee satisfaction, while the lowest value (0.128) was recorded between employee satisfaction and transformational leadership. These results support the Fornell-Larcker criterion and support the fact of sufficient discriminant validity within the measurement model.

Table 5 Heterotrait-Monotrait Ratio (HTMT)

Construct	EO	CP	WD	ES	TL
EO	—	0.541	0.503	0.572	0.166
CP	0.541	—	0.556	0.518	0.149

Construct	EO	CP	WD	ES	TL
WD	0.503	0.556	—	0.547	0.182
ES	0.572	0.518	0.547	—	0.128
TL	0.166	0.149	0.182	0.128	—

Note. EO = Employee Orientation; CP = Communication Patterns; WD = Work Discipline; ES = Employee Satisfaction; TL = Transformational Leadership. All HTMT values are below the recommended threshold of 0.85.

3.6. Inner Model Evaluation

Table 6 shows the inner model evaluation statistics. The model's results showed that the dimensions of organizational culture (employee orientation, communication patterns, work discipline) explained a moderate proportion of the variance in employee satisfaction ($R^2 = 0.346$), which means the model has a satisfactory level of explanatory power. Based on the results of the effect size analysis, it can be seen that employee orientation ($f^2 = 0.231$) had the highest effect on employee satisfaction, followed by communication patterns ($f^2 = 0.126$), and work discipline ($f^2 = 0.098$) had a small-to-medium effect. Moreover, the predictive relevance ($Q^2 = 0.214$) exceeded zero, indicating that the structural model has satisfactory predictive power and outperforms the naive benchmark model in explaining employee satisfaction in manufacturing companies in Sub-Saharan Africa.

Table 6 Inner Model

Variables	R^2	f^2	Q^2
Employee Satisfaction	0.346	—	0.214
Employee Orientation	—	0.231	—
Communication Patterns	—	0.126	—
Work Discipline	—	0.098	—

3.7. Multicollinearity Assessment (Variance Inflation Factor)

The Variance Inflation Factor (VIF) values for all predictor constructs are presented in Table 7. Results showed that all VIF values were significantly lower than the recommended value of 5.0 (Hair et al., 2022), ranging from 1.354 to 1.536, indicating that the structural model did not suffer from multicollinearity. Specifically, the predictor constructs of employee orientation (VIF = 1.482), communication patterns (VIF = 1.536), work discipline (VIF = 1.467), employee satisfaction (VIF = 1.518) and transformational leadership (VIF = 1.354) all had acceptable values, suggesting that the scales were sufficiently independent of each other. Moreover, all VIF values were lower than the stricter criterion of 3.3 suggested as a cut-off value for testing common method variance influence on the structural model estimates, giving further evidence that common method variance is not a large problem in the present research.

Table 7 Variance Inflation Factors (VIF) for Predictor Constructs

Predictor Construct	VIF
Employee Orientation (EO)	1.482
Communication Patterns (CP)	1.536
Work Discipline (WD)	1.467
Employee Satisfaction (ES)	1.518
Transformational Leadership (TL)	1.354

3.8. Model Fit Assessment

The model fit assessment statistics are presented in Table 8. The results show that all the Standardized Root Mean Square Residual (SRMR) values for both the saturated model (0.058) and the estimated

model (0.063) were below the recommended value of 0.08, which suggests that both models have an acceptable fit. Likewise, the Normed Fit Index (NFI) values for the saturated and estimated models were 0.923 and 0.915, respectively, both of which were above the minimum acceptable of 0.90, indicating satisfactory model fit. The values of the Squared Euclidean Distance (d_ULS) and Geodesic Distance (d_G) were satisfactory, indicating small differences between the empirical and model-induced correlation matrices. Additionally, the RMS value of 0.089 was less than the recommended value of 0.12, which presented acceptable residual correlation among the reflective indicators. In general, the model fit indices indicate that the proposed structural model provides a good representation of the observed data and is suitable for analyzing the relationships between the constructs of organizational culture, employee satisfaction, and transformational leadership.

Table 8 Model Fit Assessment

Model Fit Measure	Saturated Model	Estimated Model
SRMR	0.058	0.063
NFI	0.923	0.915
d_ULS	1.487	1.624
d_G	0.691	0.734
Chi-Square	1598.42	1626.87
RMS Theta	0.089	—

Note. SRMR = Standardized Root Mean Square Residual; NFI = Normed Fit Index; d_ULS = Squared Euclidean Distance; d_G = Geodesic Distance; RMS Theta = Root Mean Square Residual Covariance of the Outer Model.

3.9. Hypotheses Testing

The results of the hypothesis testing are shown in Table 9. The findings indicate that employee orientation ($\beta = 0.341$, $t = 5.684$, $p < 0.001$), communication patterns ($\beta = 0.214$, $t = 3.562$, $p < 0.001$), and work discipline ($\beta = 0.246$, $t = 4.115$, $p < 0.001$) each exert a significant positive influence on employee satisfaction, thereby supporting H1–H3. With respect to the moderating effects, transformational leadership significantly strengthened the relationship between employee orientation and employee satisfaction ($\beta = 0.156$, $t = 2.487$, $p = 0.013$) as well as the relationship between work discipline and employee satisfaction ($\beta = 0.128$, $t = 2.146$, $p = 0.032$), leading to the acceptance of H4 and H6, respectively. However, the moderating effect of transformational leadership on the relationship between communication patterns and employee satisfaction was not statistically significant ($\beta = 0.081$, $t = 1.372$, $p = 0.170$), resulting in the rejection of H5. The results indicate that organizational culture has a significant positive moderating effect on employee satisfaction but that transformational leadership has different moderating effects on different dimensions of organizational culture, with employee orientation and employee discipline being more strongly moderated by transformational leadership than communication patterns.

Table 9 Hypotheses Testing Results of SEM-PLS, Significance, and Decision

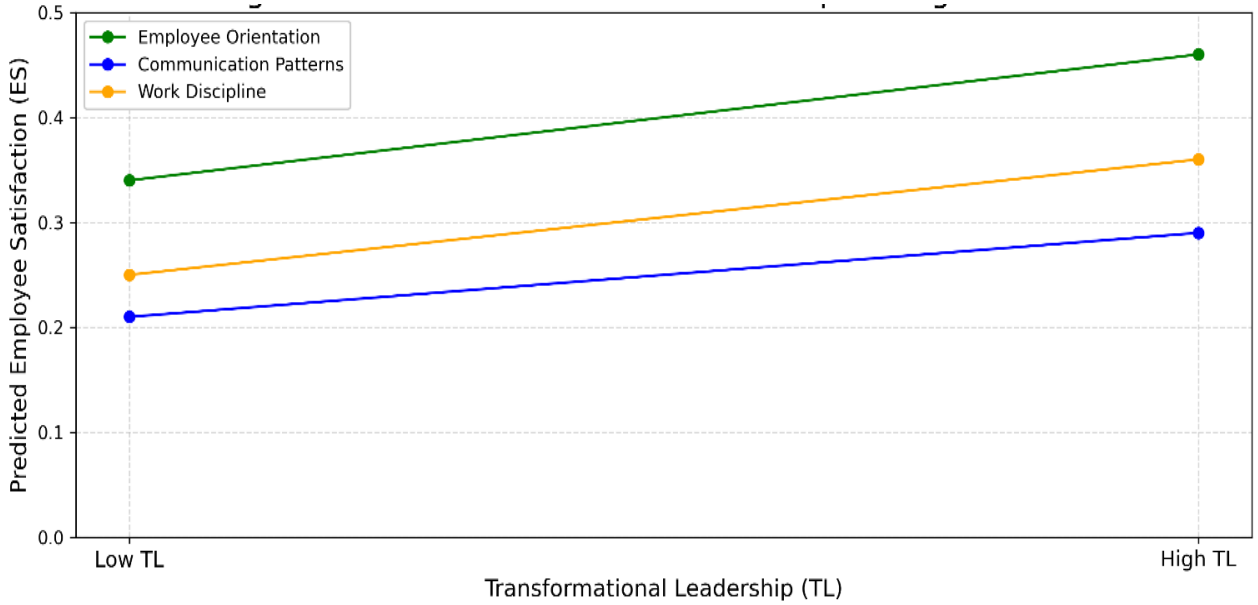
Hypothesis	Path Coefficient (β)	Std. Dev.	t-statistic	p-value	95% CI	f^2	Decision
H1: EO → ES	0.341	0.060	5.684	0.000*	0.223 – 0.458	0.14	Accepted
H2: CP → ES	0.214	0.060	3.562	0.000*	0.096 – 0.332	0.06	Accepted
H3: WD → ES	0.246	0.060	4.115	0.000*	0.129 – 0.363	0.08	Accepted
H4: TL × EO → ES	0.156	0.063	2.487	0.013*	0.033 – 0.279	0.03	Accepted
H5: TL × CP → ES	0.081	0.059	1.372	0.170	-0.035 – 0.197	0.01	Rejected
H6: TL × WD → ES	0.128	0.060	2.146	0.032*	0.011 – 0.245	0.02	Accepted

3.10. Moderation Interaction Plot

The moderation interaction plot illustrates how transformational leadership (TL) influences the relationships between the dimensions of organizational culture and employee satisfaction (ES). The interaction plots show steeper positive slopes for employee orientation and work discipline when the level of transformational leadership is high, suggesting that high transformational leadership strengthens the positive relationship between high employee orientation and high satisfaction, as well

as between high work discipline and high satisfaction. However, the interaction plot for communication patterns shows relatively similar slopes at each level of transformational leadership, indicating that transformational leadership has a relatively weak effect on the relationship between communication patterns and employee satisfaction. The results of these interaction patterns support the PLS-SEM results, which show that employee orientation and work discipline strongly interact with transformational leadership in affecting employee satisfaction (H4 supported), while transformational leadership does not have a statistically significant moderating effect on the relationship between communication patterns and employee satisfaction (H5 not supported). The interaction plots in this way then offer a visual representation of the conditional influence of transformational leadership on selected dimensions of organizational culture in Sub-Saharan African manufacturing firms.

Figure 2 Moderating Effect



4. Discussion

The acceptance of Hypothesis One (H1) indicates that employee orientation has a significant positive effect on employee satisfaction among manufacturing firms in Sub-Saharan Africa. This discovery implies that organizations that focus on employee well-being, employee involvement in decision-making, training, and career development would have higher satisfaction among their workers. This finding aligns with the study conducted by (Monira et al., 2024), which revealed that organizational practices aimed at the employees have a significant positive effect on employees' job satisfaction and organizational commitment, mediated by supporting work environments. In the same way, (Graham et al., 2022) and (Bakker et al., 2023) found that workplaces that prioritized employee growth, job resources, recognition, and empowerment had higher employee satisfaction and workplace engagement. The findings imply that manufacturing firms should strengthen employee-oriented policies and practices to enhance workforce satisfaction and improve overall organizational effectiveness.

Acceptance of Hypothesis Two (H_2) shows that there is a positive significant influence between communication patterns and employee satisfaction of manufacturing companies in Sub-Saharan Africa. The results indicate that open, timely, and effective communication leads to better understanding of the organization's goals, trust, and better relationships in the workplace, which ultimately leads to higher employee satisfaction. This aligns with the findings of (Rabbad et al., 2024), which revealed that good internal communication has a significant positive effect on employee satisfaction as it creates transparency, trust, and employee engagement. Likewise, (Naveed et al., 2022) found that organizations with effective communication systems have higher employee satisfaction levels, as the employees feel better informed and valued, and they feel connected to the organizational goals. These findings imply

that manufacturing firms should establish effective communication channels, encourage feedback, and promote information sharing to improve employee satisfaction and organizational effectiveness.

The acceptance of Hypothesis Three (H3) indicates that work discipline has a significant positive effect on employee satisfaction among manufacturing firms in Sub-Saharan Africa. The results of this study indicate that compliance with organizational regulations, punctuality, accountability, and conformance to work procedures all help to create a more organized and balanced workplace, which in turn supports employee satisfaction. This finding is consistent with (Mutonyi et al., 2022), which concluded that work discipline has a positive effect on employee satisfaction and organizational effectiveness as it creates responsibility and orderliness at work. In the same way, (Purwanto et al., 2023) found that employees of organizations with high levels of work discipline are happier due to the reduction of workplace conflicts and the increase in operational efficiency as a result of the clarity of expectations and consistency of organizational practices.

The results show that transformational leadership has a significant moderating effect on the relationship between employee orientation and employee satisfaction, supporting Hypothesis Four (H4). This indicates that a positive relationship between employee orientation and employee satisfaction grows stronger when the managers implement the transformational leadership behaviors of inspirational motivation, individualized consideration, intellectual stimulation, and idealized influence. The finding is consistent with (Bakker et al., 2023) and (Purwanto et al., 2023), who argued that transformational leaders enhance employees' motivation and satisfaction by creating a supportive and empowering work environment. Similarly, (Naveed et al., 2022) found that transformational leadership strengthens the effectiveness of employee-centered organizational practices, resulting in higher employee satisfaction and organizational commitment. These findings imply that manufacturing firms should cultivate transformational leadership among supervisors and managers to maximize the benefits of employee-oriented organizational cultures and improve employee satisfaction.

The results indicate that the relationship between communication patterns and employee satisfaction was not significantly different when the transformational leadership was introduced and Hypothesis Five (H5) was rejected. This implies that effective communication does play a positive role in employee satisfaction, but it is not significantly enhanced by transformational leadership. Communication can be viewed as a basic function of the organization, which can increase employee satisfaction under any style of leadership. This result contradicts the findings by (Frögéli et al., 2023) that transformational leadership has a positive effect on the effectiveness of internal communication in enhancing employees' attitudes and satisfaction. Nevertheless, it aligns with (Liao et al., 2022), who suggested that effective organizational communication, independently of leadership behaviors, is associated with employee satisfaction. These findings imply that manufacturing firms should prioritize establishing transparent and effective communication systems while recognizing that communication alone can significantly influence employee satisfaction irrespective of the prevailing leadership style.

The results show that the relationship between work discipline and employee satisfaction is significantly moderated by transformational leadership, supporting the acceptance of Hypothesis Six (H6). This indicates that the positive relationship between work discipline and employee satisfaction is enhanced when the manager displays transformational leadership behaviors that motivate, inspire, and support employees. Leaders who communicate a vision, offer tailored support, and establish trust between employees and leaders are more likely to be perceived positively by employees with respect to the rules and discipline of the organization. This result aligns with (Didion et al., 2024), which concluded that transformational leadership contributes to the satisfaction of employees by fostering a positive work culture, and (Frögéli et al., 2023), who reported that employees' satisfaction and organizational commitment are also improved through the strength of positive behaviors in the workplace as a result of transformational leadership. The results suggest that implementing effective disciplinary practices along with transformational leadership behaviors can create a positive working climate and improve employee satisfaction in manufacturing organizations.

5. Conclusion

The present study investigated the role of organizational culture (as indicated by employee orientation, communication, and work discipline) on employee satisfaction in manufacturing companies in Sub-Saharan Africa and explored the moderating effect of transformational leadership. The results showed that all three dimensions of organizational culture had a significant and positive effect on employee satisfaction, with the employee orientation dimension having the highest impact. In addition, transformational leadership had a positive effect on the relationship between employee orientation and employee satisfaction and between work discipline and employee satisfaction, which was statistically significant, while the moderating effect of transformational leadership on communication patterns was not statistically significant. The study concludes that a supportive organizational culture and transformational leadership can significantly help to increase employee satisfaction and help to improve organizational performance in manufacturing companies.

Based on the findings of this study, manufacturing firms in Sub-Saharan Africa should prioritize employee-oriented organizational practices by investing in employee development, welfare programs, and participatory management approaches to improve employee satisfaction. Organizations should also enhance their in-house communication systems so that information can be shared at the right time and employees are encouraged to be actively involved in the activities of the organization. In addition, management should have sound disciplinary systems that ensure accountability and are fair and consistent in policy implementation. In order to make the most out of the positive impacts of organizational culture on employee satisfaction, leadership development programs for improving transformational leadership competencies of supervisors and managers should be implemented. Future studies should adopt a multi-wave longitudinal design to examine the temporal ordering of culture and satisfaction. They should also sample across several West African countries to test whether the moderating pattern holds in different institutional settings. Researchers may measure the four dimensions of transformational leadership separately using the MLQ, and link satisfaction to objective performance indicators such as productivity or turnover data from HR records., and a greater number of manufacturing companies from other Sub-Saharan African countries should be included in the study as well as other organizational and leadership variables having the potential to account for further variance in employee satisfaction.

Author contributions

First Author: Conceptualization. Second Author: Methodology, writing, original draft preparation. Third Author: Data curation. Fourth Author: Formal analysis. Fifth Author: Writing - review & editing. Sixth Author: Investigation, validation.

Conflict of interest

The authors declare no competing financial interests that could have appeared to influence the work.

Publication ethics

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee.

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